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An Address.[1]

By H. C. COLVILLE, M.S., F.R.A.C.S.,
Melbourne.

ONE year ago tonight I faced the prospect of my term of office as your president with considerable misgivings, not only with regard to my ability to carry out the duties of this position, but also because of the special problems which would obviously concern the Branch during the year as a result of the war.

Tonight it is my duty to receive your approval or condemnation of my efforts, and strangely enough, I am vacating this chair with some regret, for I feel that no greater satisfaction could be felt by any man than to have been charged with unusual responsibility by his fellows.

Let me say at once that any success which has been achieved in keeping the Branch on an even keel is largely due to the loyal help and support of my Council and Executive—a loyalty which I have appreciated more than words can express. I should like also to acknowledge the tremendous assistance I have received from Dr. Dickson; it has needed our close association during the past year to enable me to realize the value of the work which he is doing in an unobtrusive way for the benefit of this Branch.

It has become a tradition of this Branch of the British Medical Association that the retiring president shall deliver an address to the members at the end of his term of office; and my obligation to observe this custom has directed my thoughts to the part played by tradition in the affairs of our profession.

What is tradition? The word itself derives from the Latin "*traditio*"—"I hand over", and is defined in the New Oxford Dictionary as "the act of transmitting or handing down from one to another, or from generation to generation". The appropriateness of the subject of tradition to an occasion such as this is therefore sufficiently obvious, and the matter becomes of some interest when it is found that the origins of many of the present-day customs of this Association date back to the time of its foundation. When the Provincial Medical Association (subsequently to be rechristened the British Medical Association) was founded in Worcester by Charles Hastings in the year 1832, a prospectus was issued in which were laid down the objects of the new body. The first four objects were purely scientific, and dealt with the proposed study of the chief branches of medicine, surgery, botany, meteorology, epidemiology and medico-legal science. The fifth object was as follows:

> The maintenance of the honour and respectability of the profession generally by promoting friendly intercourse and free communication of its members; and by establishing the harmony and good feeling which ought ever to characterize a liberal profession.

In the first Constitution, adopted at the inaugural meeting, the following procedure was laid down:

> As one of the objects of the Association is to maintain the respectability of the profession, and as this cannot fail to be promoted by doing honour to the memory of persons who have distinguished themselves by original discoveries in medicine, or who have sustained the character of the profession by great attainments and moral excellence, it is proposed that one of the members shall be annually appointed to deliver before the general meeting an oration on some subject connected with medical science or a biographical notice of some eminent cultivator of medical science.

I feel that you and I may derive some consolation from the fact that our mutual ordeal tonight has been borne in a similar way by others since the very inception of our

[1] Delivered at the annual meeting of the Victorian Branch of the British Medical Association on December 4, 1940, at Melbourne.

Association. I propose tonight to carry out the behests of our founders as laid down 108 years ago; to refer briefly to the progress made in the study of medical science; to say something concerning the maintenance of the honour and interests of the medical profession; and to pay tribute to one who may be justly credited with having "distinguished himself by original discoveries in medicine" and with having "sustained the character of the profession by great attainments and moral excellence".

It would indeed be a poor body of men who failed to derive not only inspiration from a study of the ideals and achievements of the past, but also a realization of their value as a guide to our own present and future conduct; but it is a matter of some importance and interest to decide to what extent our observance of traditional ideas in our scientific work will result in benefit to ourselves and to the public whom we serve.

If we look back over the history of medicine we are struck by the constant warfare which has been waged between the old-established practices of the healing art, and the new discoveries which have steadily added to our knowledge, as a result of generations of medical research. While this conflict went on for hundreds of years at an easy *tempo* corresponding to the very leisurely pursuit of scientific knowledge, it is obvious that within the memory of most of us here tonight, the recent years have been marked by a *crescendo* of activity in which traditional ideas have been swept away like leaves before the spate of scientific discovery.

Perhaps some of us may indulge in an occasional feeling of envy for the practitioners of a few centuries ago, whose obligations to their patients involved no more than a knowledge of such facts as that the cure of a stone in the bladder could be obtained by applying to the supra-pubic region a mixture of the livers of bats and the blood of a cock killed at the full of the moon. Theirs not to reason why; theirs not to question the traditions which decreed that the ills of the flesh must be dealt with by a mixture of witchcraft and Holy Writ. How different from the medical man of today, who must be prepared to keep his mind in a state of flux, and to abandon some of his most cherished ideas at a moment's notice, at the behest of the scientist at his microscope or the chemist in his laboratory!

The acquisition of this elasticity of mind which is so necessary to progress is unfortunately made difficult by other factors than our own innate conservatism; there is no doubt that we must also overcome the dead weight of prejudice in the minds of our patients, who often regard modern methods not only with suspicion but with positive abhorrence. It will still require years of courage and persistence to deprive the average patient of the feeling of satisfaction derived from his knowledge that the logical result of a visit to his doctor will be the acquisition of a bottle of semi-magical liquid to be taken three times daily after meals. Any attempt drastically to wean the public from such time-honoured procedures results inevitably in the glorification of the quack and the charlatan, whose lack of knowledge of the human body is amply offset by an intimate acquaintance with the peculiarities of the human mind.

It is not necessary to traverse the ways of the distant past in order to appreciate the constant war between science and tradition; any of us who have been in practice for twenty years or more will find sufficient evidence of it in our own experience.

It was my privilege to receive my surgical training as a student from one whose passing robbed our profession of one of its most notable and picturesque figures—the late Robert Hamilton Russell. He in his turn had sat at the feet of the father of modern surgery—Lord Lister; and I count myself as more than fortunate in having participated in the stream of wisdom flowing from such a distinguished source. It is not my purpose to embark on a long eulogy on the life and work of Hamilton Russell, but it would seem ungrateful on my part if I neglected this opportunity of paying some small tribute to one to whom I am so largely indebted for anything which I have achieved in this profession. Hamilton Russell, by an easy gradation which seemed natural to his personality, allowed me to progress from being a respectful pupil worshipping him from afar to becoming his close personal friend in the latter years of his life; and it must be a rare experience for any young practftioner to enjoy the privilege of intimate contact with such a charming and stimulating character. It would probably be found that the transplantation of a potentially distinguished surgeon from England to a permanent abode in Australia, as occurred in Hamilton Russell's case, is an almost unique event, and it would be difficult to assess the beneficial effects which his advent conferred, and is still conferring, on the medical profession of this country.

It was a stroke of good fortune for the Alfred Hospital that its managers showed their foresight by appointing him to their honorary staff soon after his arrival in this State; but the wisdom of their action soon became apparent. It is not necessary to describe the years of work done by Hamilton Russell as surgeon to the Alfred Hospital—years during which he developed many of the original ideas concerning hernia, fractures and other subjects which are still associated with his name and during which the general standard of surgical work in the hospital was raised enormously. What impressed me most with regard to his actual surgical work was his unswerving loyalty to his own great teacher, Lord Lister; if any surgical procedure which we were taught to carry out in the hospital wards had been practised or advocated by Lord Lister, then we were taught at the same time that it was just automatically the correct thing to do. If such an attitude might conceivably be inimical on occasions to scientific progress, who can deny its value as an example to the youth of a generation in which values and loyalties are being so violently readjusted?

I admit no disloyalty in stating that much of the detailed surgical teaching acquired at that time has been largely discredited in the light of modern knowledge, and I shall briefly mention one subject which illustrates this and also serves to recall an incident which gave an amusing sidelight on Hamilton Russell's methods. I refer to the then prevailing attitude towards the after-treatment of patients on whom a laparotomy had been performed, especially in the presence of actual or potential peritonitis.

It will now, I think, be generally agreed that one of nature's provisions for the recovery of such patients is that the alimentary tract shall enjoy for a period the essential and beneficial condition of rest. The outward and visible signs of this quiescence are a complete cessation of all bowel activity, and in many cases some accompanying abdominal distension. To what extent we can blame tradition for the attitude that these benign provisions of nature were an evil thing, I do not know; suffice it to say that I was taught as a student that they must be attacked with all the means at our command. To this end the patient was made the subject of a vicious onslaught by everything from calomel to high bowel washouts which could be expected to attain the goal of peristaltic activity; and since opium and morphine were known to inhibit peristalsis, these drugs were rigorously forbidden.

I have a vivid recollection of an incident which occurred on one of our regular Sunday morning rounds with Hamilton Russell—he used to operate on Monday mornings, and always carried out his pre-operative review on the previous day, thereby instilling into the minds of his students that in the profession which they had chosen the seventh day could never be one on which they could carry out the scriptural behest—"on it thou shalt do no manner of work".

On this occasion we came in due course to the bed of a woman two or three days past her abdominal operation; and, having come, found revolution. It appeared that the resident medical officer had been so overcome with pity for this poor soul, suffering from the agonies of calomel and heaven knows what other forms of torture, that he had either forgotten or deliberately jettisoned his teachings and traditions and had given her a dose of morphine by the mouth shortly beforehand. What followed has given me a mental picture which I shall never lose—the patient rudely awakened from her first glimmering of comfort for several days; the resident medical officer trying vainly to hide his shame before a bevy of goggling students; while Hamilton

Russell, like an avenging angel, called for a stomach tube, and with his own hands washed out the offending medicament.

Thus did the handing on of a traditional practice based on a false physiological and pathological conception deprive who knows how many thousands of sufferers of the inestimable boon of *Papaver somniferum*.

Having mentioned this instance of what might be regarded as the ill effects of a too slavish adherence to traditional conceptions, let me hasten to say that in the case of Hamilton Russell they were more than offset, in the scientific aspect, by his possession of a highly original mind, which was ever striving to bring new ideas to the practice of surgery. That many of these are still generally accepted today is probably due to the fact that they were all based on the principles of correct mechanics and sound common sense. For example, the method of slinging a fractured femur which bears his name, arose out of his determination to imitate by pulleys, cords and slings the action of lifting the injured limb with his two hands, which comes instinctively to any thinking surgeon; and a perusal of his other contributions to surgical literature reveals the same uniform ability to bring sound reasoning to bear on the problems of human pathology.

I consider, therefore, that Hamilton Russell represented the ideal mentality for a member of our profession, in that he combined a reverence for tradition with a constant desire for the betterment of surgical practice. His monuments in this State are many things, notable amongst which are the improvement in the methods of election of honorary staffs of public hospitals (which he helped to elevate from the level of parish-pump politics to that of scientific qualification), and the foundation of the Royal Australasian College of Surgeons, which was the great object and occupation of the latter years of his life. His portrait hangs in the hall of the College building, a few hundred yards from this spot, alongside that of his teacher, Lord Lister, and I can conceive of nothing which could be more inspiring to the present generation, or which would have given him more pride and pleasure, than this fortunate juxtaposition.

If I have thus far succeeded in inducing in your minds a willingness to apply the critical faculty to the evaluation of traditional customs, I propose to mention briefly another matter which has exercised my mind for several years. It is not necessary to make any detailed study of the origins of the honorary system of staffing public hospitals in order to realize that, as it exists today, the system bristles with anachronisms, and the particular aspect of it which I wish to bring before you is the astonishing survival of the traditional division of honorary staffs into those attending in-patients and those attending out-patients.

Many years ago this arbitrary division of duties had a reasonable foundation, in that the work done was of a senior and responsible nature in the one case, and of a junior and much less responsible nature in the other; but I submit that any such classification of duties has now largely ceased to exist. The man who holds a position on the out-patient staff of a hospital nowadays must possess the highest degrees and qualifications in medicine or surgery respectively; it is part of his duty to act as substitute for his corresponding in-patient honorary medical officer on numerous occasions; and although he may be young in years and experience, I venture to say, with all respect to the senior members of our hospital staffs, that there is no emergency so grave nor operation so difficult and exacting that he is regarded as unfitted to cope with it if it happens to arise at three o'clock in the morning. If it is admitted, therefore, that the distinction is purely arbitrary as regards the difficulty and responsibility of the work done, the sole justification for the system disappears and we are free to consider the absurdities and disadvantages to the patient to which it leads. It would need the pen of a Gilbert to do justice to the position that a patient suffering from diabetes, or anæmia, or a badly injured elbow joint will find himself at one moment under the care of Dr. A. and the next moment under the care of Dr. B., according to whether he passes from the vertical to the horizontal position or *vice versa*; but it is obvious that such an arrangement is largely destructive of that continuity of treatment which is so essential to the patient's welfare. From our own point of view as clinicians, it is also obvious that our ability to learn by experience is tremendously reduced if our opportunities to observe the results of our treatment are confined to one phase of the patient's illness.

In support of these observations I venture to refer once more to Hamilton Russell, and to quote some words referring to this subject which are extracted from his presidential address to the section of surgery of the medical congress at Auckland in 1914:

> The mere performance of an operation or of any number of operations can impart knowledge of only a very circumscribed and imperfect character. The close following of a single case from day to day, the close scrutiny of the behaviour of the wound, of the sutures, of the discharges and of the general phenomena displayed by the patient, will yield a richer harvest of valuable equipment to the surgeon than any amount of operative experience in which the after-treatment is committed mainly to the charge of others.

It has been my good fortune to hold for the past sixteen years the position of surgeon to the children's department at the Alfred Hospital; I have charge of a complete surgical unit consisting of about 20 beds in the children's ward and an out-patient department as well, and it is my realization of the tremendous advantages of this arrangement that has made me feel so strongly on this subject. I know of no more salutary experience for a surgeon than to see the patient, the brilliance of his operation upon whom has caused him to puff out his chest with pride, gradually lapse back into his original condition during months or years of subsequent observation in the out-patient department; nor can I exaggerate the feeling of satisfaction derived from watching the puny infant, whose treatment has almost led one to despair, gradually blossom into robust and glowing childhood and adolescence. It is my desire to share with my colleagues the unique privileges associated with complete continuity of treatment that leads me to hope that in the reorganization of the hospital system, which is inevitable in the near future, these words of mine may in some small way help to bring about a change to the unit system which cannot fail to be of benefit to patients and clinicians alike.

Any attempt to deal with the influence of tradition on the medical profession would be incomplete if it failed to consider its effects on other phases of our activities than the purely scientific. When we pass on to the wider sphere of morality and ethics, we find ourselves in a world which is beneficently illuminated for our guidance by the beacon lights of tradition, and there are few difficulties which we encounter in attempting to decide what is correct behaviour, in which we are not helped and directed by the ethical wisdom of past generations. The conception of a code of ethics for those whose work is to relieve the ills of their fellow creatures is generally attributed to Hippocrates, who practised the healing art in Greece about four hundred years before the birth of Christ; and it is a moving thought that a copy of the Hippocratic oath is hung for our guidance in the hall of this building in which we are gathered tonight.

The evolution of our code of ethics from this origin has been a gradual process over the centuries, but it has always been based on the two main conceptions of our duty to our patients and our duty to our colleagues; and whatever details of behaviour may have been laid down from time to time, there is always to be found in the background the fundamental principle that human behaviour should be based on common decency and the observance of the golden rule. Strangely enough, whereas, as I have pointed out, the public are frequently the staunchest champions of tradition in matters purely medical, they are often our greatest opponents when we are honestly trying to observe the traditions of medical ethics. It is unfortunate that the unassailable word "ethics" is frequently replaced in this connexion with the word "etiquette", and the mention of "medical etiquette" to some members of the public is like a red rag to a bull. It is generally interpreted as some vague and

queer principle which is introduced by doctors in moments of stress and anxiety with the express object of thwarting the efforts to obtain the best treatment for the patient. In dealing with this attitude I think we should always try to remember that the anxiety arising from serious illness is destructive of all connected and reasonable thought in both the patient and his relatives; and that if we quietly explain that our object is only to do for another what they themselves would wish to be done for them, the vast majority of people will see the force of the argument.

The attempt to uphold a code of ethics in any sphere of life must be profoundly influenced at the present moment by the state of the world in which we find ourselves, and the medical profession, like all others, is faced with the necessity of retaining its balance in the midst of chaos and upheaval.

The state of war is one which has existed in the world as far back as history can take us, and while human nature remains what it is, we cannot hope that the world will ever be free from it; but it has remained for this generation to see the process of war reduced to the lowest level of human degradation. Who can fail to be inspired by the wars of the past, in which a nation, to redress its grievances, sent forth its manhood to fight in an honourable way on the field of battle? Who can read unmoved the words of Henry V of England, as told to us by Shakespeare:

> If we are marked to die, we are enough
> To do our country loss, and if to live
> The fewer men the greater share of honour.

Now we find ourselves confronted by an enemy in whom we may look in vain for any motive for war higher than that of the smash-and-grab raider, whose will to win does not shrink from the attainment of victory by the slaughter of innocent women and children. The *habitué* of a Viennese doss-house has become the leader of the world's greatest military machine and the despot of the lives of countless millions of people; the greatest scientific brains are engaged, not in striving for the benefit of mankind, but in seeking for bigger and better methods of encompassing its destruction. May we not be justified in these circumstances in feeling that common decency is a voice crying in the wilderness?

I feel that before we accept the counsels of despair we should endeavour to assess our own position as members of a peculiarly favoured profession. If any of our friends who are lawyers, engineers, land-owners or business men, wish to serve their country, they have no option but to fit themselves to become efficient units in the forces which wound and destroy; but if we offer our services, we know that we can never be called upon to do anything other than carry out, under the altered conditions of war, the same duties of mercy and relief of suffering which are our ordinary occupation in times of peace.

There can be little doubt that the medical profession in Australia is facing a period during which its devotion to duty will be put to a severe test. It is unnecessary to emphasize the sacrifices which are being made by those who have already enlisted in the services, and whose numbers will be steadily increased as the war goes on; many of them are giving up the security and comfort which they have striven to build up by years of arduous work in the various branches of private practice, and which they may never enjoy again. May the esteem of their fellows and the knowledge that they have been true to the traditions of our profession compensate them in some degree for all that they are losing! For those who must perforce remain at home, there is the prospect of harder and harder work as the needs of the civil population make an ever-increasing demand on a steadily diminishing medical personnel; and from a purely materialistic aspect there is no possibility, in view of the taxation with which we are faced, that increased financial gain can accrue in proportion to increased professional activity. Our testing time is before us; what will be the judgement of future generations when they look back on our efforts in the years from 1940 onwards? Let us determine that our record shall be one of which we may be justly proud; that it shall be said of us that we strove to maintain the ideals of service which we have inherited; that we forgot our differences and petty squabbles and gladly gave all in our power to help our colleagues, our country and our Empire.

If we are tempted to bemoan our lot and to wonder at times if our efforts are worth while, let us cast our minds for a moment to the heroic doctors of Great Britain, who as ordinary civilians are carrying on their work to the accompaniment of exploding bombs and under conditions which have never been approached in the fiercest battles of previous wars. Faced as we are by an enemy who knows no rules, who is lowering the standard of human behaviour to that of the jungle, we may be tempted to abandon our codes and sink to the same level; but it will be a consolation to us as a profession and as members of the British nation to feel, when peace is finally restored, that we have behaved in a manner worthy of the best traditions of our race.

> Dishonour not your mothers, now attest
> That those whom you called fathers did beget you.
> Be copy now to men of grosser blood,
> And teach them how to war.

TWO METHODS FOR THE DETECTION OF INFLUENZA VIRUS IN HUMAN THROAT WASHINGS WITHOUT THE USE OF FERRETS.[1]

By F. M. BURNET and M. FOLEY.

(From the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne.)

INTRANASAL inoculation of ferrets is the standard method for the detection of the virus of epidemic influenza in human throat washings. In some epidemics, such as those of 1933 and 1937 in England (Stuart-Harris *et alii*[1]), of 1937 in the United States of America (Francis *et alii*[2]) and of 1939 in Melbourne,[3] ferrets are readily infected from almost all the patients tested. In other epidemics ferret infections are much more difficult to produce. These epidemics appear to be those which occur in the winters between the major epidemic periods, and such findings have been recorded from both England and the United States of America during the early months of 1939 (Stuart-Harris *et alii*,[4] Horsfall *et alii*[5]).

As far as we can judge from a very limited experience, the same type of influenza has been present in Melbourne during the winter and early spring of 1940. If, as seems likely, influenza virus infections are not confined to the periods when widespread typical epidemics occur, it is important to exploit any method by which strains that do not produce typical ferret infections can be isolated and made available for study. Further, from the point of view of economy and convenience, it would be an advantage if all the necessary procedures for the isolation and characterization of influenza virus strains could be carried out without recourse to ferrets. In this paper we record our experiences in the primary isolation of influenza virus strains in chick embryos by the amniotic inoculation technique recently described (Burnet[6]). It will be shown that this is capable of isolating virus from filtrates which fail to infect ferrets.

The second method for detecting but not isolating the virus is based on the observation of Taylor[7] that virus from throat washings may produce subclinical infections in Syrian hamsters (*Cricetus auratus*). The immunity produced can be recognized by giving subsequently a test inoculation with a virulent strain. We have applied the same principle in mice, and by this means have been able to diagnose the presence of influenza virus in several throat washings. Since the throat washings require to be filtered only through a paper filter before being administered to mice, the method is extremely simple and

[1] Work carried out with the aid of grants for research on virus diseases from the National Health and Medical Research Council and from Mr. E. Alec Cato.

could if necessary be carried out with only the most primitive laboratory facilities.

There is as yet no clear agreement as to the serological differentiation of human influenza viruses. Wilson Smith and Andrewes[8] recognize four relatively distinct antigenic components, Francis and Magill[9] find considerable differences amongst strains but do not separate them into definite groups, while in this laboratory (Burnet[10]) we consider that there are two distinct groups typified by the strains "W.S." and "Melbourne", into which at least the great majority of strains can be distributed. Within each major group there may be pronounced minor differences. All workers are agreed that swine virus is less closely related serologically to the human strains than these are to one another. Shope[11] has recently described minor antigenic differences amongst swine strains. In the course of the present work we have made experiments to determine whether mouse serum can be used for type differentiation of influenza virus strains. The results obtained were not so definite as those with ferret serum, but were sufficient to distinguish clearly between the major types and to show differences between two groups of freshly isolated strains.

Methods.

Human Throat Washings.

The patient is given 10 cubic centimetres of saline solution to gargle thoroughly. The fluid is then mixed with five cubic centimetres of nutrient broth and sent to the laboratory as quickly as possible. It is there filtered through a sterile filter paper to remove mucus and debris. This paper filtrate is used for mouse inoculation and for further filtration through a gradocol membrane of average pore diameter about 0·8μ. The membrane filtrate is tested for sterility and used for egg or ferret inoculations.

Amniotic Inoculation of Chick Embryos.

The technique of amniotic inoculation of chick embryos has been fully described (Burnet[9][12]). With primary filtrates we usually inject about 0·25 cubic centimetre of fluid into the amniotic cavity of twelve-day embryos and make an examination after four days' further incubation. In all instances to be described definite changes in the tracheal fluid and in the macroscopic appearance of the lungs were observed in the primary series of embryos. Pooled amniotic and allantoic fluids were collected from all eggs as they were opened and passages were made with those from embryos showing typical lesions. The fluids were tested for sterility by smearing on a blood agar plate. A further check on the absence of bacterial contamination was provided in the examination of tracheal smears. On the few occasions when we have encountered contaminants, numerous bacteria were visible in the smears. Every precaution was taken to prevent accidental contamination with other virus strains being used in the laboratory. A large number of unsuccessful attempts to isolate virus from various upper respiratory infections have been made during the past winter, two to four passages normally being made before the attempt was abandoned. Only in one instance, during these attempts, have we encountered an influenza virus which might reasonably be ascribed to laboratory contamination.

Mouse Inoculations.

Mice were inoculated intranasally under light anæsthesia with 0·05 cubic centimetre of fluid, the inoculum being delivered from a calibrated capillary pipette. Those receiving the primary paper filtrates were reinoculated fourteen days later with 1:100 dilution of stock "Melbourne" mouse virus, which is equivalent to about 100 minimal lethal doses. The survivors were examined seven days later for the extent of pulmonary lesions. Inoculations of egg material usually took the form of pooled embryonic fluids diluted 1:5 or 1:10 to reduce the viscosity of the fluid. The mice were bled for serum or given a test inoculation of active virus fourteen days later.

Mice were bled under anæsthesia by an incision made over the pectoral region, the subclavian artery being cut through with scissors. Blood was collected by a Pasteur pipette from the pocket formed by the incision. About one cubic centimetre of blood per mouse was obtained. All tests were made on pooled serum from two to five mice.

Serum Titrations.

Titrations were made both by chorio-allantoic and mouse methods, standard techniques and the "Melbourne" egg or mouse strains of virus being used. The results are recorded under the same conventions as have been used in previous papers.

The Use of Mice for Type Differentiation of Influenza Virus Strains.

In addition to serving as a means of primary isolation of virus, ferrets are also used for the preparation of immune serum by which type differences between virus strains can be determined (Burnet,[10] Smith and Andrewes[8]). If the ferret is to be eliminated, some alternative method of type differentiation is obviously required. In the absence of data in the literature as to the specificity of mouse immune serum, a series of preliminary tests with mice immunized by the standard strains "Melbourne", "W.S." and "Swine" was made. As we should be concerned in practice with mice immunized by intranasal inoculation of unadapted strains, it was thought best to use a method of immunization with living virus given by the intranasal route. This can be done with mouse-adapted virus if the first inoculation is given without anæsthetic, followed by a second intranasal inoculation twelve days later. In the present work undiluted virus (5% lung emulsion supernatant fluid) was used for both inoculations, and the mice were bled out seven days after the second dose. The lung lesions were noted. Except for two mice which were apparently not immunized by the first injection of swine virus, all the lesions were old and could be referred to the first infection. Table I shows the lesions produced by this procedure in four groups of mice and the activity of the serum against egg virus strains. The "Melbourne" was given to two groups, one of mice of standard age (eight weeks) and one of larger mice.

TABLE I.

Active Immunization of Mice Against Standard Influenza Virus Strains.[1]

Strain.	Age of Mice.	Lung Lesion.[2]	Antibody against "Melbourne" Egg.[3]	Antibody against "W.S." Egg.[3]
			%	%
"Melbourne"	8 weeks	4^3—3, 2, 2, 1, 1, 0, 0	0·03	0·22
"Melbourne"	4 months±	4^3 4^3—2, 1, 1, 0, 0	0·009	0·012
"W.S."	8 weeks	4^3 4^3 4^{13}—2, 2, 2, 2, 1	0·68	0·034
"Swine"	8 weeks	4^{12} 4^{15} 4^{15}—3, 3, 1, 1	16·0	0·7

[1] Two intranasal inoculations of undiluted mouse virus were given, the first without anæsthetic, the second twelve days later by the usual method under light anæsthesia.

[2] In this and other tables the extent of lung consolidation in mice is shown by the usual convention: 4^3, meaning complete consolidation with death five days after inoculation, 3, 2, 1, meaning diminishing degrees of consolidation, and 0 meaning no consolidation. In this table the index figure shows the day after the first inoculation on which death occurred.

[3] Activity of antibody is shown as the percentage of foci obtained with undiluted serum+virus under standard conditions. The smaller the percentage, the more active the serum.

The "Swine" egg strain is not now available, but the differentiation between "W.S." and "Melbourne" is clear, particularly with the serum from young mice. The relative non-specificity of the pooled serum from older mice inoculated with "Melbourne" is of interest in view of the change in human antibody character with age (Burnet and Lush[13]); but the non-specificity was not sufficient to produce any significant inactivation of "Swine" mouse virus. The results of tests in mice with all three virus strains are shown graphically in Figure I. The chief features are the almost complete differentiation of "Swine" virus from the

two human strains and the clear but incomplete serological differentiation of "W.S." and "Melbourne". The difference is not so sharp as that observed with ferret serum, but is adequate as a means of differentiating the types.

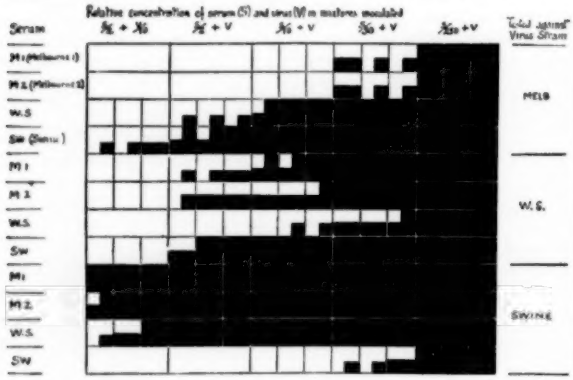

FIGURE I.

Graphic representation of serum-inactivation tests using mouse serum and mouse-adapted standard virus strains "Melbourne", "W.S." and "Swine". Each square represents one mouse inoculated with the serum virus mixture indicated. Mice dying with complete consolidation are shown by a black square, those surviving without lesions by a white square; survival with incomplete lung consolidation is indicated by partially blackened squares.

Reisolation of Virus from Experimentally Infected Volunteers.

We have described elsewhere (Burnet and Foley[14]) an experiment in the course of which volunteers were sprayed in the nose and throat with unmodified influenza virus, strain "R", in the form of fluid from amniotically infected embryos. Three subjects, E.L.B., E.W.B. and M.N., had definite infections; M.S. showed only a slight rise of temperature and trivial symptoms.

Filtrates from throat washings of all four subjects produced primary infections in two or more of the five eggs inoculated with each filtrate, and the strains were easily carried through further amniotic passages, with the production of typical lesions in the embryos.

Mice were inoculated intranasally with pooled embryonic fluid from each strain, and ferrets with similar material from strains E.L.B. and M.N. Some of the mice were killed at fourteen days to obtain serum; the remainder were tested for immunity to "Melbourne" mouse strain and examined seven days later. At this time any primary lesions due to the original inoculation could easily be recognized owing to their characteristic translucent greyish-brown appearance. The data from these mice given in Table II are sufficient to show that the strains isolated were typical influenza virus strains.

TABLE II.

Response of Mice to Intranasal Inoculation with Embryonic Fluids Infected with Reisolated Strains.

Strain.	Primary Lesions.	Serum Titre.		Response to Infection with Virulent Influenza Virus.
		"Melbourne" Egg.	"W.S." Egg.	
E.L.B.	2, 2, 1, 0, 0, 0	0·14%	15·0%	0, 0, 0, 0
M.N. ..	2, 2, 1, 1, 1, 1	0·24%	7·7%	0, 0, 0
M.S. ..	1, 1, 0, 0, 0, 0	0·75%	49·0%	0, 0, 0

The ferrets receiving strains E.L.B. and M.N. (F 143 and F 144) both showed a high primary "spike" of temperature with an unusually short incubation period (twenty-four hours). The ferret receiving M.N. (F 144) showed a small secondary rise of temperature above 104° F. four days after inoculation; the other showed only the primary spike. Serum obtained fourteen days after inoculation showed high antibody titres against "Melbourne" egg virus (F 143 0·002%, F 144 0·0065%).

Tests of the power of the original throat washings to infect mice were not made until the period of isolation in the country was completed—that is, after the throat washings had been stored for five to eight days in the refrigerator. All the mice given paper or membrane filtrates from E.L.B., E.W.B. and M.S. failed to develop immunity. Positive results were obtained with M.N. Of four mice inoculated with the paper filtrate, three survived after the test with 1:100 "Melbourne" virus, while one of four inoculated with membrane filtrate was found to be immune. The survivors showed only grade 1 or no lesions, while of the 24 virtual controls only two remained alive at seven days, and both had almost complete consolidation which would certainly have killed them within forty-eight hours.

Isolation of Virus from Natural Cases of Influenza.

Throat washings were obtained from three patients in a small epidemic of an influenza-like infection in a hospital nursing staff. Two of the patients, McD. and Rich., had been febrile for forty-eight hours, while the third, Bedf., had just reported sick when the washings were made. She subsequently developed a typical illness.

Paper and membrane filtrates were prepared in the usual way. The paper filtrates were used for mouse inoculation, the membrane filtrate for ferrets and for amniotic inoculations. The temperature charts of the two ferrets inoculated with filtrates from McD. and Rich. are shown in Figure II. It will be seen that there was no response whatever in the four days after inoculation. The filtrates introduced into eggs by the amniotic route both produced typical infections in every egg inoculated. The amniotic and allantoic fluids from these embryos were then used to reinoculate the corresponding ferret, and in each case a small but significant temperature response was produced and the ferrets were subsequently shown to have developed high titre antibody. No evidence of the presence of influenza virus in throat washings from Bedf. was obtained by any method.

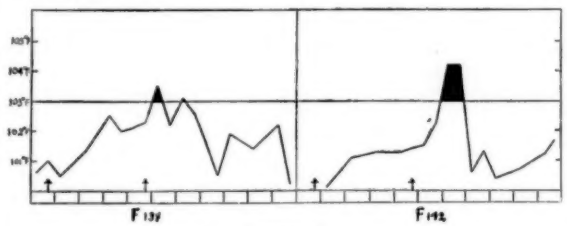

FIGURE II.

Temperature charts of Ferrets 138 and 142 inoculated at first arrow with filtrates from throat washings of McD. and Rich. and at the second arrow with fluids from embryos infected with the same primary filtrates. Each division of scale represents one day.

This demonstration that filtrates incapable of producing signs of infection in ferrets were typically infective for chick embryos provides rather striking evidence of the value of the amniotic method.

Six mice each were inoculated with the paper filtrates of washings from McD. and Rich. None showed any symptoms, and thirteen days later they were reinoculated with "Melbourne" mouse virus diluted 1:100. Table III shows the results obtained.

TABLE III.

Action of Paper Filtrates of Throat Washings in Producing Immunity in Mice.

Patient.	Lesions After Test with "Melbourne" Virus 1:100.
McD.	4[4] 4[3] 4[3] — 1, 0, 0
Rich.	4[3] 4[3] 4[3] 3+ — 1, 1
Uninoculated mice .. .	4[4] 4[4] 4[3]

In one series three mice and in the other two mice have developed effective immunity against nearly 100 lethal doses of influenza virus. This experiment in itself is sufficient to demonstrate the presence of virus in the throat washings.

Fluids from chick embryos infected with the original membrane filtrates were inoculated intranasally into six mice each. Two were killed at seven days to determine the extent of pulmonary lesions. The others were reinoculated with "Melbourne" mouse virus 1:100 fourteen days after the original inoculation and examined a week later. Only old lesions were observed, the mice being completely immune. The reactions of mice to these strains are combined in Table IV.

TABLE IV.

Immunization of Mice with Fluids from Primary Amniotic Infections with the Strains McD. and Rich.

Strain.	Primary Lesions.	Lesions after Test for Immunity.	Serum Antibody Titre.	
			"Melbourne."	"W.S."
McD. ..	2, 1, 1, 1, 1, 0	0, 0, 0, 0	0·3%	2·1%
Rich. ..	3, 1, 0, 0, 0, 0	0, 0, 0, 0	0·25%	1·75%

It is of interest that the serological character of these strains differs significantly from those prevalent in Melbourne in July, 1939. The 1939 strains studied were all essentially similar to "Melbourne" with only an insignificant "W.S." component, though with minor differences amongst themselves. Both McD. and Rich. showed a much greater "W.S." component, although particularly in mouse tests the major activity of the ferret serum is against "Melbourne".

TABLE V.

Comparative Activity of Serum from Ferrets Infected with Strains McD. and Rich. against the Standard Strains "Melbourne" and "W.S."[1]

Ferret.	Strain.	Mouse Tests.		Egg Tests.	
		"Melbourne."	"W.S."	"Melbourne."	"W.S."
F 138	McD.	30	10	0·03%	0·24%
F 142	Rich.	30	5	0·09%	0·03%

[1] Activity in mouse tests is expressed as a percentage of activity of homologous "Melbourne" and "W.S." immune serum.

The high value of the antibody against "W.S." egg shown by serum F 142 has been confirmed in three separate tests; but all titrations showed the unusual anomaly of a failure of the "C.P. = constant" rule (Burnet, Keogh and Lush[13]). When undiluted serum was mixed with virus small numbers of foci corresponding to 0·02% or 0·03% were obtained; but when the serum was diluted 1:10 many more than ten times the number of foci appeared. It is doubtful therefore whether the value given has the same significance as the other three, all of which gave normal relationships within the individual titrations.

Discussion.

The main object of this paper is to demonstrate the value of the amniotic method of chick embryo inoculation for the primary isolation of influenza virus. The relative scarcity of respiratory infections of typical influenzal type this winter has not allowed so extensive a test with the method as could be wished. Isolation of the virus from material which was non-infective to ferrets, however, provides a particularly definite indication of the value of the method. This, together with the ease with which all types of mouse, ferret or chorio-allantoic strains can be propagated by the method, seems to justify the statement that the amniotic method is the method of choice for the isolation of influenza virus. Both English and American workers[4][8] have commented on the irregularity of primary and even passage inoculations in ferrets with strains of the 1939 epidemics, and an alternative means of primary isolation should be welcome. It should perhaps be stressed that primary infections of the chick embryo are easily recognizable as such by examination of tracheal smears, and do not require repeated passage before lesions are visible, as is the case with chorio-allantoic inoculations. A further advantage is that three or four days after the primary inoculation each egg provides five to ten cubic centimetres of high titre infective material free from bacteria for further work.

We have insufficient experience to discuss the readiness with which mouse strains can be developed from amniotic material. It is the general practice to pass strains through two or three generations of ferrets before adapting them to mice. Andrewes, Laidlaw and Smith[10] state that at least two passages are always necessary, and in one case thirteen were required. As will be seen in Tables II and IV, primary amniotic fluids nearly always give small pulmonary lesions in mice. We have carried out only one series of mouse passages of a strain isolated by the amniotic method. The strain Rich. was transferred to mice after three amniotic passages. Definite lesions were produced; but in the next passage of ground mouse lung the lesions were smaller, with the third mouse passage they were larger, and in two more passages mice were dying in five days when inoculated with undiluted virus emulsion. Unless this strain is exceptional, there should therefore be no difficulty in establishing mouse strains from primary amniotic isolations.

The second method for the indirect demonstration of virus in throat washings by the inoculation of paper filtrates in mice is likely to be useful only in circumstances in which makeshifts must be employed. It might prove, for instance, to be the most convenient method for showing that an epidemic in some isolated community was due to influenza virus.

To summarize, we may state that in our experience the most satisfactory method for isolating and identifying influenza viruses is as follows:

1. Inoculate four to six twelve-day chick embryos with membrane filtrate of throat washings.

2. Inoculate mice intranasally with fluid from embryos showing the characteristic pathological changes.

3. Test serum from some of these mice for amount and type of influenza antibody and determine the resistance of the remainder by inoculation of a standard mouse strain of virus.

This will provide all the information ordinarily necessary to characterize a strain of influenza virus.

Summary.

1. Influenza virus can be isolated from filtrates of throat washings from human influenza patients by the method of amniotic inoculation into chick embryos.

2. In two instances virus was isolated by the amniotic method from filtrates which failed to produce symptoms or a rise of temperature in ferrets.

3. In three instances the presence of influenza virus in throat washings has been demonstrated by inoculation of mice with non-sterile paper filtrates and a subsequent immunity test.

4. The immunological character of virus isolated by the amniotic method can be readily determined by intranasal inoculation of mice, with subsequent tests for active immunity and serum antibody against standard influenza strains.

Acknowledgements.

We are greatly indebted to Dr. Mildred Hutchings for obtaining material from the three patients mentioned.

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THE MEDICAL INDUSTRIAL EFFICIENCY DEPARTMENT.

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MEDICAL industrial efficiency departments are becoming increasingly familiar overseas, but as yet have received scant recognition in Australia. At a time like the present, when every nerve is being strained to increase factory production, an account of the activities of these medical efficiency departments may prove useful and interesting.

Detailed descriptions of some of these departments will be found in the articles in the journals listed in the bibliography. These will be found to contain descriptions of equipment, housing and staff, and some of them are excellently illustrated. Here it is proposed to give only a general survey of the whole of them.

In the United States of America these departments are referred to as the factory "hospital", and are commonly housed in especially erected buildings, handy to but detached from the factory. When it is situated in the factory, the modern "first aid department", as it is known in England, is always housed in a series of light, airy rooms. The provision of pleasing quarters is regarded as essential to the full utility of the department. Dingy, uncomfortable, hot and stuffy rooms do not tempt the worker who has a headache or other minor malady, whereas the pleasant room certainly does.

The staff is always headed by a fully qualified medical man. In the larger factory hospitals of the United States of America two or three full-time medical officers are employed as well as "consulting" surgeons. In the less ambitious establishments the one full-time medical man is deemed sufficient. Under him there are a variable number of nurses, fully qualified. It would appear that if full-time service is to be supplied to the working staff without causing undue delay, there should be one nurse to each 600 members of the staff actually working at the time. Of course, this figure is only an approximation; but it seems that with a larger number of men than this to look after, delay is apt to be caused and the waiting room to become unduly full, more especially during epidemics of minor maladies.

The equipment of the department will become apparent from the description of the activities.

The Activities of Medical Efficiency Departments.

The activities of the medical efficiency department may be described under four heads: (i) the prevention of occupational invalidity, (ii) the prevention of accidents, (iii) the prevention of non-occupational invalidity, and (iv) the restoration of the sick and injured to full earning capacity as rapidly as possible.

The Prevention of Occupational Invalidity.

The first step in the prevention of occupational invalidity is taken at the time of engagement of members of the staff, and bound up with it is the avoidance of "misfits". One of the most important duties of the medical officer is the examination of all applicants for employment. Obviously the employment in any job of a man physically unfit for the work would be to the disadvantage of both the man and the employer; therefore every applicant is submitted to a careful physical examination. This should include, besides the usual routine of an insurance examination, the "overhaul" of all joints and limbs, an examination of the muscular development and a determination of the acuity of eyesight and hearing. If there are deep scars anywhere on the limbs, post-traumatic paræsthesia of related areas of skin must be detected or proved absent.

The reason for some of these determinations may not be apparent to the uninitiated. Amid the noisy surroundings of many factory operations, quite a small deficiency of hearing may become a positive nuisance to both the man's co-workers and supervisors, and may actually become a delaying factor. Warning lights in many factories are of various colours, and the man who is colour-blind will be likely to misinterpret them. The determination of blood pressure is called for, because the man who has a high blood pressure should not be set to perform strenuous muscular work; neither should the lad with large inguinal rings or the older man who already has a hernia. Poor muscular development will obviously unfit the man for some heavy jobs, and a record to that effect on his personnel card will prevent his being transferred to any such job after he has joined the staff without reference to the medical officer to see if his condition has improved since he joined. Incipient arthritis would clearly be a disability on any operation calling for rapid movements. The man with paræsthesia of limbs or other parts of the body must be placed where his loss of feeling will not involve him in the risk of burning himself or being caught in moving machinery. Flat feet would obviously be a disability in any job at which the worker had to stand all day.

Within the factory prevention of industrial invalidity is aimed at by careful attention to such routine matters as light and ventilation, sanitation, washing and shower accommodation *et cetera*. In addition to this, the medical officer who would achieve the best results must be constantly on the watch to see that altered production methods have not introduced risks of invalidity. These may include fatigue-producing postures, and indeed such postures may be employed unnecessarily by men themselves. In the great majority of instances these risks are not permitted to creep in; but at times they do. Other sources of risk of invalidity lie in the materials used in many modern manufacturing processes. Here again the deleterious substances are known to be so by "supervision" and by the chemical staffs, and the worker is appropriately protected; but even so, now and again one or other of these sub-

stances is brought in in a manner which will permit its ingestion, or inhalation, or irritation of the skin. The medical officer has to remember that he is the only member of the staff whose sole care is the health of the men. "Supervision" will avoid the risks as far as possible; but an occasional oversight must not be missed by the medical officer. The keeping of humidity records is a constant necessity in certain industries and in certain locations. Beyond a certain degree, humid conditions are harmful to a high degree. They make work unnecessarily unpleasant and cause discontent, and thus a vicious circle is set up which slows down production and undermines the health of the worker.

The Prevention of Accidents.

In all modern factories the prevention of accidents is really the duty of the "safety-first" officer and his lieutenants; but the medical efficiency department is particularly favourably situated to assist that officer.

It is the rule in those industries in which these departments are functioning that all accidents, however trivial, must be reported at once to "first aid". Apart from the reporting of any of these which call for investigation, "first aid" discovers at once whether a minor trivial accident has become a repetitive accident on any job. Now, experience has shown that these small accidents, if neglected, are capable of yielding in the aggregate a fair amount of labour wastage. Each of them is apt to result in an infected wound, and even with all due care a certain proportion of these wounds constantly do become infected. Therefore, the discovery of repetitive accidents is a discovery which calls for a report to "safety first" and for an investigation by that department. Furthermore, in many factories "safety first" is only one of the duties which fall to the officer appointed to the position. It follows that not infrequently he is not available to investigate accidents as soon as they happen. Experience has shown that the investigation of these happenings should be carried out as soon as possible after the event, else a clear picture of the events or conditions leading up to the accident will not be obtained. Not infrequently it is only a clear understanding of how the accident happened that provides the material on which to build the safety first procedure necessary to avoid a repetition of the accident. In the absence of the safety-first officer, it becomes the duty of the medical officer to carry out this investigation.

The medical efficiency staffs keep a record of every visit of every man to the department, a record sheet for each man. These sheets often show whether a new employee is accident-prone on account of the minor nature of his accidents before "supervision" has discovered the fact. It is the practice of many medical officers to send for these accident-prone men as soon as they are found and to have a quiet talk with them. The experience of the majority of the medical officers appears to be that most of the men in this category are over-keen and go "like a bull at a gate" at their work, and that they mend their ways at once when spoken to. Actually the accident-prone man is a menace to his fellow workers as well as himself in a factory full of machinery, and if he is incurably accident-prone, he must be turned out of the parts of the factory where the risks of accident are high.

The Prevention of Non-occupational Invalidity.

It is the claim of industrial medical departments that it is in the prevention of non-occupational invalidity that they are able to do the greatest amount of good, and there is no doubt that it is in this sphere that they render the most valuable assistance to the members of the staff. The success of this work depends entirely upon the amount of confidence the staff is able to inspire in the rank and file, and this in turn depends on the amount of cooperation which the department receives from the senior members of the general staff. It is therefore the practice to instruct foremen and other supervisors that the men are to be encouraged to seek the assistance of the nurses and the doctor whenever they feel at all "off colour".

With the confidence of the rank and file properly established, experience has shown that the number of visits made to the department varies between figures which are equivalent to one or one and a half visits per member of the staff per month. The great majority of these visits have proved to be for the alleviation of purely transitory discomforts, such as headache, indigestion, stomach ache *et cetera*. Next in order of frequency are the visits for treatment of minor scratches, cuts and bruises received in the factory; nearly equal in number to these are the visits for treatment of similar minor injuries received outside the works. Most of these people return to work to be relieved promptly by the remedies administered or the dressings applied. Amongst the first group, however, there are always instances of incipient coryza, influenza and more serious troubles. It is believed that a very satisfactory proportion of the incipient troubles respond to treatment, so that numbers of cases of coryza and influenza are cut short right at the beginning and a considerable amount of labour wastage is avoided thereby.

In addition, however, it is also very firmly held that many more serious maladies are detected in their early stages and the patients are sent away for treatment, or treated in the factory hospital during the early stages, whilst the condition is amenable to treatment. Most common amongst these have been the men who complained that they had a "nasty cough and a pain in the chest" and who were really suffering from acute bronchitis or pneumonia in its first day or two; next in frequency, apparently, have been the complaints of stomach ache, which was due to appendicitis.

There is no reason to doubt that this exceedingly convenient first aid service, administered under the direction of a medical man and by fully qualified nurses, has been able to detect serious maladies and send the patients for treatment before they themselves were aware that they were suffering from anything more serious than an ordinary cough or simple stomach ache, and in doing so have been able to avoid numerous fatalities.

The Rapid Restoration of Full Earning Capacity.

During his convalescence the risk or injured worker is, in the majority of instances, in receipt of, at the best, a reduced weekly cheque. This period is, then, one of enforced idleness under financial conditions which are certainly strained, and it may be even ruinous. These are not the conditions which are conducive to rapid recovery.

In these circumstances two things are necessary if the patient's convalescence is to be shortened: some relief for the financial stringency, and an occupation for the man himself (idleness is irksome to most men). If he has been involved in an accident and one limb has been left weakened or otherwise disabled, a reeducative job will be needed. In many industrial undertakings, both in Great Britain and in the United States of America, which have a medical efficiency department, all these three factors which contribute to rapid recovery are at the disposal of the medical officer. It is the practice in these undertakings to reemploy their man just as soon as he desires a job and his medical man will agree to his having one, without waiting till he has recovered enough to be able to resume the work he was engaged on before his disability. In all large manufacturing undertakings there is a very wide range of operations, from the sedentary checking of materials or stock as they come off a conveyor to the most strenuous operations in the factory. In these circumstances it is nearly always possible in those factories to fit the convalescent worker with an occupation commensurate with his strength. Of course, difficulties in connexion with award rates of pay are at times met with; but in most cases it has proved possible in those undertakings which extend their medical efficiency work so far to overcome these difficulties.

Records of individual instances are not available for quotation; but it is generally agreed that the combination of some relief from worry, regular hours, suitable occupation and the company of fellow workers all conduce to more rapid recovery than can be obtained if the man is simply left at home to brood over his worries and his physical disability without any distractions.

Conclusion.

I should very much like to be able to conclude this review with some statistics indicating exactly the amount of labour wastage avoided; but unfortunately there are no records available on which any accurate estimate of results may be based.

Figures published by McKinley[1] and Falk[2] indicate that the amount of time lost annually through sickness by those employed between the ages of sixteen and sixty-five years is approximately ten days per person. This figure is the average of the figures for Great Britain, the United States of America, Germany, France and Denmark. The figures for the United States and Germany are based on extensive investigations or long records, or both, and are probably very near the actual figure. For the United States it is 8·2 days for the whole of this employed group and 10·0 days for those in receipt of wages and salaries of £500 and under; the figure for all classes in Germany is 9·5 days.

Now in 1936 Smith and Leiper[3] investigated the labour wastage and absence due to sickness in a group of British industrial undertakings, each of which had a medical department. They found that the average time lost per employee *per annum* was 6·2 days.

Here in Sydney Dr. Brodziak[4] has published the figures for absence due to sickness of the staff under his care for a number of years. His last three returns show an average loss of 4·3 days *per annum* per employee.

These are the only Australian figures which could be found and which are available for comparison with the average loss of time due to sickness of the general populations of the countries mentioned above.

We are not entitled to assume that the average loss of time from sickness in the Sydney metropolitan population is less than that in the United States. If it is the same, Dr. Brodziak's figures can mean nothing less than that his activities have reduced the labour wastage from this cause in the staff under his care from ten to just over four days *per annum*. With a staff of 3,000 this would mean the saving of 17,100 days' work.

Before I discuss the question of who would have paid for that loss had it occurred, it may be well to stress the point that whoever paid for it, it would all have been a dead loss.

Now who would have paid for this lost time? It is possible to make an estimate of the proportional cost of this loss to the employer.

It appears from international vital statistics and invalidity returns that the average lost time per sick person is 19·9 days *per annum*, because the whole of the sickness in any one year falls on only half the population. It is to be assumed that the saving effected reduced the number of persons ill equally with the number of days; that whereas 50% of the staff would have been ill, only something under 25% were ill. This means that had this saving not been effected, another 25 members in every 100 would have been off duty ill and in receipt of "sick pay". Common industrial experience is that workers do not take "sick pay" for trivial ailments; only a limited amount is available to them under most awards, and the tendency is not to use it lest a greater need arise later. Therefore, once a man is off duty ill he usually needs the limit permitted him in the matter of pay. It follows that with a staff of 3,000 the cost to the employer of a loss such as that avoided would have amounted to approximately 750 payments of "sick pay" to the limit of each claim under the relative award. One cannot put any actual figure to this amount, because the rates of pay and periods allowed vary widely under the different awards. It may, however, be remarked that inasmuch as the maximum "sick pay" period under the great majority of Australian awards is seven days, this would have amounted, at the most, to 5,250 days; 11,850 days would have been left for which the worker would not have been paid.

I conclude that whilst a medical efficiency department saves money for the employer by reducing overhead costs, it saves more for the employee; and the whole of the savings go to the credit of the population as a whole.

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CULTIVATION OF β-HÆMOLYTIC STREPTOCOCCI ON MALTOSE-BLOOD-AGAR: A PRESUMPTIVE TEST FOR GROUP A.

By R. T. SIMMONS AND HAROLD WILSON.
(From the Commonwealth Serum Laboratories, Melbourne.)

A CLINICAL pathologist should be able to report that β-hæmolytic streptococci are or are not of Group A. Streptococci of Group A (*Streptococcus pyogenes*) are potential human pathogens; streptococci of the other groups commonly found in clinical material (Groups B, C and G) are rarely pathogenic to man.

There is only one test by which the group can be determined, the precipitation test of Lancefield (1933), in which group-specific serum and group polysaccharide extracted from the organisms are used. This test is easily carried out; but extraction of the specific polysaccharide is a little tedious, and because it interrupts the daily routine of the clinical laboratory, it is apt to be left undone.

Kodama (1936, 1937) and Kodama *et alii* (1937) have used a test, which they attribute to Kobayashi and his associates, by which they were able to distinguish streptococci of Group A from β-hæmolytic streptococci of other groups according to their growth on the surface of glucose-blood-agar plates. It can be done so much more readily than the precipitation test that we have attempted to discover whether it is sufficiently reliable for its use to be justified.

We hope that the test here reported may prove serviceable to clinical pathologists, as it has to us, particularly to those who at this time may have to work in the field without the aid of a power centrifuge, which is desirable in the extraction of the specific polysaccharide.

Materials and Methods.

Kodama and his associates (1937) observed the appearance of the growth on glucose-blood-agar plates containing 1% of glucose and 5% of horse blood. After preliminary experiments with various proportions of glucose or maltose and of the blood of man, horse and sheep, added to several varieties of nutrient agar, we have adopted the following procedure.

Pure cultures of β-hæmolytic streptococci were examined, after cultivation at 37° C. for eighteen to twenty-four hours, on the surface of plates of two media, which will be described; the plates were so inoculated that massed growth and separate colonies were obtained.

The media referred to are as follows: (*a*) the neopeptone-horse serum-horse blood-agar plates recommended by Ward and Rudd (1938) for the isolation and cultivation of hæmolytic streptococci; this medium will be referred to as "special blood-agar"; (*b*) similar blood-agar plates containing, in place of horse serum, a 10% solution of maltose in distilled water, sterilized by filtration. The concentration of maltose in the medium was 1%. This medium will be referred to as "maltose blood-agar".

The medium of Ward and Rudd is made as follows. Dissolve in 1·0 litre of water 10 grammes of neopeptone ("Difco"), 8·5 grammes of sodium chloride and 0·5 gramme of glucose. Adjust the pH to 7·6, add 15 grammes of powdered agar and dissolve by boiling. Distribute in amounts of 14 cubic centimetres in tubes measuring six inches by one inch, and sterilize in the autoclave. When a plate is required, a tubeful of agar is melted and cooled to 50° C.; 1·5 cubic centimetres of horse serum and 1·0 cubic centimetre of defibrinated or citrated horse blood are mixed

with it and the plate is poured. In the preparation of a maltose-blood-agar plate 1·5 cubic centimetres of a sterile 10% solution of maltose is substituted for the horse serum. Horse blood must be used in both media; it need be obtained only once a month if stored in the refrigerator.

Eight hundred and sixty-nine strains of β-hæmolytic streptococci of Groups A, B, C and G, isolated during the past three years from human sources, were examined. The number of strains in each group is shown in Table I.

In Group A were included representatives of all Griffith's (1934) types (except Types VII, XVI, XX and XXI, which are not of Group A), and of all the additional local serological types tentatively established in Sydney by Rudd, White and Ward (1939) and in Melbourne by Keogh and his associates (Keogh, Simmons and Wilson, 1941).

In Groups B, C and G were included representatives of the serological types described by Simmons and Keogh (1940), including "minute" colony types of Group G.

In addition, strains from various human and other sources were examined representing Lancefield's Groups A to H (except Group F), *Streptococcus agalactiæ* (Group B) and the serological types of Group C of animal origin described by Bazeley and Battle (1940).

The Appearance of the Growth on the Surface of Blood-Agar Plates.

Figures I and II are photographs of pure cultures of β-hæmolytic streptococci of human origin on the surface of blood-agar plates after eighteen hours' incubation at 37° C. The photographs are eight-ninths natural size.

Strains of Human Origin.

On Special Blood-Agar (Figure I).—Ward and Rudd (1938) described two types of colony characteristic of Group A; these they designated the "F" colony, which is the "rough coherent" colony of Griffith, or the "F" colony of Ward and Lyons (1935), and the "M" colony, which is the "watery mucinous" colony of Griffith and the "M" variant of Ward and Lyons. Other colony forms assumed by hæmolytic streptococci on the surface of this medium were less characteristic. It was often possible, however, to predict that certain colonies were not of Group A. Colonies of Group B were suspected by the hazy outer margin of the zone of hæmolysis, which was comparatively weak. Double zones of hæmolysis (Brown, 1937, 1939) were seen occasionally; according to Brown, however, horse blood, which was used in this work, is less suitable for demonstrating double zones than rabbit or human blood. Colonies of Group C or G of human origin were smooth, domed, white and surrounded by a wide, sharply defined zone of hæmolysis. They were not confused with the "M" colony (Group A), which, although surrounded by a fairly wide zone of hæmolysis, is readily recognizable and is characteristic of Group A.

On Maltose-Blood-Agar (Figure II).—Group A. In Group A β-hæmolysis was either absent or much reduced. Around separate colonies of most strains it was absent, in which case the massed growth was more or less green and was sometimes surrounded by slight hæmolysis. Around separate colonies of a few strains β-hæmolysis was evident; but it was very much reduced in width as compared with the zones surrounding the colonies on special blood-agar. "M" colonies sometimes showed comparatively narrow zones of hæmolysis, barely extending beyond the edge of the colony; the appearance of these colonies was characteristic of Group A, and was readily recognizable on both special blood-agar and maltose-blood agar. Group A colonies were greyish-green by transmitted daylight.

Group B. In Group B the massed growth was coloured deep cream to dark brown; the colour extended through the thickness of the medium and was visible on the reverse side of the plate; it was recognizable at a glance. When the plate was held up before a window and examined by transmitted daylight, colonies were seen to be dark brown. Moderate or slight, often incomplete, hæmolysis was present.

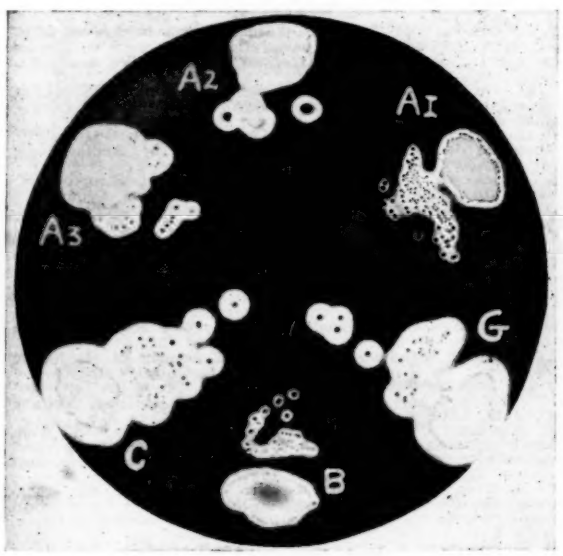

FIGURE I.

Results on "special blood-agar". A1: Group A, the "F" colony, which is weakly hæmolytic. A2: Group A, the "M" colony, which is strongly hæmolytic. (The other distinctive features of the "F" and "M" colony types described by Ward and Rudd do not appear in this photograph.) A3: Group A, a smooth conical colony, which is moderately hæmolytic. B: Group B, the relatively narrow zones of hæmolysis, with hazy outer margins. C, G: Groups C and G respectively, wide zones of hæmolysis with sharp margins.

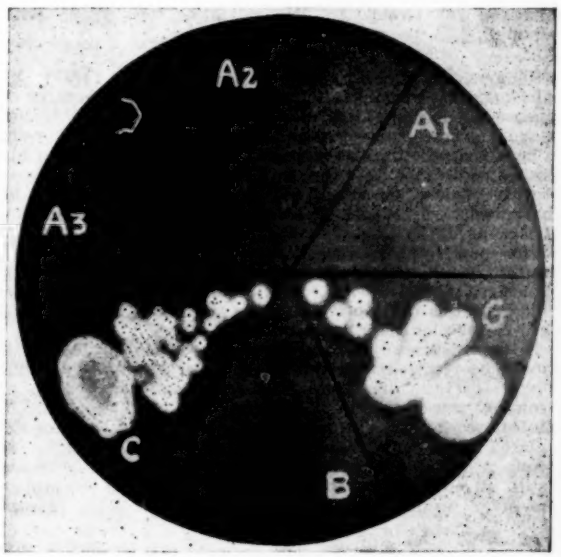

FIGURE II.

Results on "maltose-blood-agar". A1, A2, A3. Group A: β-hæmolysis absent. ("M" colonies sometimes show narrow zones of incomplete hæmolysis.) B: Group B, the massed growth and the underlying medium are characteristically brown; a narrow zone of hæmolysis may surround the massed growth. C, G: Groups C and G respectively, although hæmolysis is reduced as compared with the zones on "special blood-agar", it remains obvious.

Group C. β-hæmolytic streptococci of Group C nearly always showed clear zones of hæmolysis like the zones seen when they were cultivated on special blood-agar, although slightly reduced in width.

Group G. β-hæmolytic streptococci of Group G usually, but not invariably, showed clear zones of hæmolysis like Group C.

No difference was noticed between Groups C and G. Zones of hæmolysis like those shown by Groups C and G were, with few exceptions, never shown by Group A. The "minute" colonies of Group G or Group F presented no difficulty, because Group A does not grow as "minute" colonies on special blood-agar.

Streptococci of Animal Origin.

Group B (*Streptococcus agalactiæ*) and Group C (*Streptococcus equi* and animal C) behaved like the corresponding groups of human origin. The few strains examined of Groups D, E and H resembled Group B.

TABLE I.
β-Hæmolytic Streptococci of Human Origin: the Number of Strains Examined on Maltose-blood-agar and the Number Unrecognized in Each Group.

Group.	Number of Strains Examined.	Number Unrecognized.
A	500	4 (0·8%)
B	120	0
C	179	3 (1·67%)
G	70	12 (17·14%)
Total	869	19 (2·18%)
B, C, G	369	15 (4·06%)

Numerical Results.

In Table I are shown the results when maltose-blood-agar was used for the recognition of β-hæmolytic streptococci of human origin of Groups A, B, C and G. Analysis of the errors shown in this table revealed that four strains (0·8%) of Group A were mistaken for Group C or Group G and that 15 strains (4%) of Group C or Group G were mistaken for Group A. No mistakes were made with Group B.

Discussion.

Kodama (1936, 1937) and Kodama *et alii* (1937), by cultivating β-hæmolytic streptococci on the surface of glucose-blood-agar plates, were able to distinguish Group A from other groups. Group B, however, did not seem to be clearly distinguished from Group A; Kodama and his associates did not describe the brown colour of the massed growth which we observed, without exception, to be characteristic of Group B among β-hæmolytic streptococci of Groups A, B, C and G.

The power of glucose incorporated in blood-agar to inhibit hæmolysis by various bacteria is well known (Zeissler, 1912; Brown, 1919; Plummer and Fraser, 1931). This report is descriptive, and we shall not try to explain here this action of glucose or maltose.

In appraisement of the numerical results (Table I), it should be realized that relatively more strains of Groups C and G (in which most mistakes were made) than of Group A were examined than would probably be met in clinical work. All the strains of β-hæmolytic streptococci isolated from our material comprised 1,341 strains of Group A, 78 of Group B, 179 of Group C and 70 of Group G; if all the strains in each group had been examined, the error probably would have been about 1·5% instead of 2·2%.

Only the precipitation test is decisive; moreover, provided the serum used is definitely group-specific, it calls for little discernment, whereas some experience is necessary in interpreting the appearances of the growth on special blood-agar and maltose-blood-agar. A little practice, however, with streptococci of known groups will give confidence in the interpretation of the plates.

As a presumptive test for Group A streptococci we have found maltose-blood-agar useful and, with few exceptions, reliable. As a test for Group B streptococci of human origin it was quite reliable; in Groups C and G, however, some strains were mistaken for strains of Group A; in clinical practice this error is perhaps less serious than that strains of Group A should be mistaken for Group C or Group G, which are rarely pathogenic to man. Other bacteria may reproduce on maltose-blood-agar the appearances produced by β-hæmolytic streptococci, particularly those of Groups A and B, and it is essential therefore to examine β-hæmolytic streptococci on maltose-blood-agar plates in pure culture.

Finally, we wish to draw attention to the advantage of the special blood-agar medium of Ward and Rudd for primary isolation of β-hæmolytic streptococci from mixed cultures. The characters of the "F" and "M" colonies described by these authors are not readily recognizable on ordinary blood-agar plates, on which "F" colonies are apt to appear as doubtfully hæmolytic or even as non-hæmolytic.

Summary.

1. Eight hundred and sixty-nine strains of β-hæmolytic streptococci of human origin of Groups A, B, C and G were examined on maltose-blood-agar plates as a presumptive means of distinguishing strains of Group A from the other three groups, which are commonly found in man but are rarely pathogenic to man.

2. Of 500 strains of Group A streptococci, all but four (0·8%) were recognized. Of 369 strains of Groups B, C and G, all but 15 (4%) were recognized as not of Group A.

3. As a presumptive test for Group A streptococci, the medium maltose-blood-agar was useful, and, with few exceptions, reliable. As a presumptive test for Group B among hæmolytic streptococci of human origin, it was quite reliable. Groups C and G were not distinguishable from one another, but most strains of Groups C and G were distinguishable from Group A, and all strains were distinguishable from Group B.

Acknowledgement.

The photographs were taken by Mr. F. J. Dempster; we are indebted also to Miss Hildred Butler and Mr. D. Murnane, who sent some strains of Group B β-hæmolytic streptococci.

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THE BROSE-JONES TEST FOR CANCER.

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AND

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AT the Ninth Australian Cancer Conference in Sydney, in 1938, Brose and Jones[1] reported the results of investigations on the phosphorus-partition and phosphatase activity in the blood of cancerous and non-cancerous patients. Among other details, they reported an average ratio (c/p) of the total phosphorus of the cells of the blood divided by the total phosphorus of the plasma in cancer cases of 7, and in non-cancer cases of 4·8. In interpreting their results they claimed that c/p values above 5·4 must be regarded as almost certainly due to the existence of a cancerous condition, provided that there were no disturbances due to pregnancy, febrile conditions, infections, recent irradiation, treatment with certain drugs or a recent meal. Values of c/p between 5·4 and 5·2 appeared to them to signify a condition which, while not necessarily malignant, must be regarded as potentially dangerous. Values of c/p below 5·2 definitely signified non-malignancy, except in some cases in which p exceeded 15 (advanced cachectic cancerous patients). Their method and equipment for the phosphorus estimation were described in a second paper;[2] a special absorptiometer with two balanced photronic cells and a resistance were used. The total number of cases reported by Brose and Jones was 253.

In order to determine the practical value of the Brose-Jones test, a number of specimens of blood were examined by exactly the same method, and an absorptiometer was constructed on the same principle as that outlined by Brose. For the construction of this we are indebted to Mr. B. W. Scott, physicist to the Radium Department and to the Anti-Cancer Campaign Committee.

The specimens of blood examined were sent to the laboratory labelled with a number only; the test was done in a separate building from the hospital. Great care was taken to exclude any leak of information about the patient. The results of the tests were returned to the hospital and were filed by the radium registrar, who alone had all the clinical details, history, histological reports and notes of the cases.

The number of specimens of blood examined was 1,250; of these, 169 had to be discarded because of technical difficulties. The results of the remaining tests were discussed by the radium registrar and the pathologist; careful consideration was given to the history, the clinical condition of the patient, the histological report of biopsies (there was a biopsy or post-mortem examination in practically every case), the treatment, the diet *et cetera*. It was then decided whether or not the result of the test was in accordance with the condition of the patient at the time of examination of the blood. Forty-four cases had to be declared doubtful because of recent interference for treatment, a meal or biopsy. The results in the remaining 1,037 cases are given below.

Group I: Tumour Patients.

Group I contains all patients who either had untreated tumours at the time of investigation or had had tumours previously removed or treated.

Under "correct positive results" are all the cases collected in which a c/p above 5·2 was obtained, and in which there was, clinically, an untreated tumour or a recurrence.

Under "correct negative results" all the cases are collected in which a tumour had been removed or successfully treated some time earlier, in which clinical freedom from tumours at the time of investigation was present, and in which the c/p was below 5·2.

The "false negative" results, in cases in which tumours still existed clinically, but in which the c/p was below 5·2, consisted of cases of carcinoma of the skin, breast or tongue, or of sarcoma of bone in which no treatment had been undertaken, of cases in which secondary deposits from carcinomata of the breast or tongue were present, and of cases in which secondary deposits of melanoma or lymphosarcoma were present.

Group II: Non-Tumour Patients.

Group II contains all patients who had never before had a tumour and, as far as could be determined, were free from tumours at the time of investigation. A c/p above 5·2 was found in 63%. Some of these patients were pregnant, others suffered from tuberculosis, syphilis, Hodgkin's disease, fractured bones, thyreotoxicosis, polycythæmia, hyperkeratosis of various types or sebaceous cysts.

Results.

The results of our tests are shown in Table I.

TABLE I.
The Results of Tests on 1,037 Subjects.

Results.	Number of Tests.		Percentage.
Tumour patients (884):			
Correct positive:			
c/p above 5·4	308	348	40
c/p between 5·2 and 5·4 ..	40		
Correct negative:			
c/p below 4·8	159	210	23
c/p between 5·2 and 5·4 ..	51		
Total		558	63
False negative (tumour present):			
c/p below 4·8	206	268	30
c/p between 5·2 and 4·8	62		
False positive (tumour removed or healed):			
c/p above 5·4	52	58	71
c/p between 5·2 and 5·4 ..	6		
Total		326	37
Non-tumour patients (153):			
Negative:			
c/p below 4·8	47	57	37
c/p between 5·2 and 4·8 ..	10		
Positive:			
c/p above 5·4	81	96	63
c/p between 5·2 and 5·4 ..	15		
Total		153	100

Conclusions.

According to our results, we are not able to confirm the results of Brose and Jones. The test is apparently not highly specific, and therefore not of great diagnostic value. A c/p of above 5·2 or 5·4, without full clinical investigation, is of little diagnostic value, and cannot be relied upon in doubtful cases to indicate the presence of an early or hidden carcinoma, or of a predisposition to cancer.

Acknowledgement.

We are indebted to Dr. R. Burnard, registrar of the radium clinic of the Royal Adelaide Hospital, for his assistance and collaboration.

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Reports of Cases.

LOCAL ANÆSTHESIA AND RETROSTERNAL GOITRE.

By T. MAYNARD FURBER,
Sydney.

Clinical Record.

IN THE MEDICAL JOURNAL OF AUSTRALIA of December 10, 1938, I reported a case of retrosternal goitre with hæmorrhage causing respiratory embarrassment, in which local anæsthesia was a dominant factor in the successful result. I have just operated on another patient with a large toxic goitre with a mediastinal lobe; local anæsthesia not only made a dangerous operation comparatively safe, but allowed me to shell out the mediastinal mass.

The patient was a woman, weighing some twelve stone and aged fifty-four years, who for twenty years had had a large goitre, which had caused no trouble apart from its size until twelve months earlier; she began then to show thyreotoxic symptoms. The mass was very large and the patient looked quite fifteen years more than her actual age; she really appeared senile, so here was a surgical problem indeed. She was, however, very sensible, and readily grasped the safety of local anæsthesia when I explained the position to her; and so, feeling that she trusted me, I felt sure that all would be well.

The operation was performed in two stages, and the method of inducing analgesia was the same each time. Injections of one-quarter of a grain of morphine and one one-hundredth of a grain of hyoscine were given two hours before operation, and one-sixth of a grain of morphine was given half an hour before operation. The cervical plexus on each side was blocked as described by Labat, but with 0·5% "Novocain" solution without adrenaline. In order to reach the plexus it was necessary to displace the thyreoid medially so that the cervical transverse processes could be felt. The line of the skin incision was given a subcutaneous injection. "Novocain" solution (0·5%) was used throughout.

The whole of the left lobe was removed at the first operation and was found to pass under the sterno-mastoid muscle into the posterior triangle of the neck, and it was found that this was the most dependent point and so was used for drainage. This lobe was about six inches long and about four inches from side to side at its widest part, and it measured two and a half inches antero-posteriorly in the part medial to the anterior border of the sterno-mastoid; at this point it suddenly became less than an inch thick, since it had insinuated itself deep to the muscle to appear in the posterior triangle.

There was but little reaction, and three weeks later the right lobe was removed, but was found to have a retro-sternal lobe. However, after all the vascular connexions had been cut it was found easy and painless to draw the mediastinal lobe out aided by gentle stripping of the areolar tissue of the mediastinum; during this procedure the great vessels were felt, but avoided on account of their sensitivity. This plan was suggested by Dr. C. E. Corlette in a letter published in THE MEDICAL JOURNAL OF AUSTRALIA of January 14, 1939. The only drawback was that in order to cut all the vessels it was necessary to roll the gland firmly towards the median plane, and I found it impossible to do this without pressing on the trachea. This difficulty was overcome by giving the patient a rest now and again and working quickly when I did get a chance.

The right lobe was roughly cylindrical in shape, about eight inches long and three inches in diameter. The tumour was reported to consist of multiple colloid adenomata. The post-operative course has again been smooth.

Conclusion.

And so a total thyreoidectomy for a very large toxic goitre has been performed for a very "bad risk" patient with a minimum of danger and a happy result. I feel that local anæsthesia was the greatest factor in achieving this end, and that in view of the extent of the area of operation this case is a striking tribute to the practical value of cervical plexus block.

PINK DISEASE TREATED BY WHEAT GERM.

By G. FORSYTH,
Horsham, Victoria.

THE following three cases of pink disease treated by wheat germ are a continuation of a series of six cases published in THE MEDICAL JOURNAL OF AUSTRALIA of November 19, 1939, at page 751, and of March 30, 1940, at page 457.

Case VII.

L.M., aged eight months, a male child, had been entirely breast fed. He was first seen on August 22, 1940. The history was that the child had not been quite well for three months. He had gradually become listless and apathetic and had been cross at night. During the previous three weeks there had been an intensification of the symptoms, and the child had had a running nose, a slight cough and a rash which the parents thought was due to rubella. At the time of the examination he was listless and peevish. He was thin and anxious looking, with pronounced photophobia and loss of tone in his limbs. Mild coryza and bronchitis were present, and his hands and feet were red and puffy.

The parents elected to treat him at home. One ounce of wheat germ ("Bemax") was ordered to be given to him three times a day. No other treatment was given and no change was made in his diet. Within a week his condition had improved considerably; he began to take notice and to return to his normal bright ways, and to sleep and eat well. His hands and feet peeled and resumed their normal colour within a fortnight. The photophobia disappeared within a few days of the commencement of treatment, and his weight, previously stationary, increased by two ounces in the first week. Three weeks after the commencement of wheat germ therapy he could be considered a normal baby.

Case VIII.

A.M., a male child, aged twelve months, was brought to me by his mother on September 2, 1940. She gave a history of gradually increasing peevishness, loss of weight, sleeplessness and a rash on the child's body five weeks before, "like measles". The symptoms had commenced six weeks previously in a mild way. The mother had noticed that he crouched in his cot and avoided the light. He had been fed since the age of one month on a cow's milk mixture and had latterly been given biscuits and patent barley. The symptoms and signs of pink disease were unmistakable and included fretfulness, hair pulling, insomnia, anorexia, hypotonia, photophobia, a slight rash, clamminess of the skin and mild coryza. His hands and feet were pink, but not much so, as in many cases. He was underweight (twenty pounds), having lost two pounds in the previous three weeks.

He was treated at home. One ounce of wheat germ ("Bemax") was ordered to be given to him three times a day. Two days later his mother reported that she was unable to induce him to take more than one teaspoonful three times a day. "Vibex Extract" (stated to contain the various factors of the vitamin *B* complex) was ordered in drachm doses three times a day, and in addition he was given the contents of one capsule of wheat germ oil ("Fertivite") three times a day. He took this treatment with little difficulty. On the second day a bright sudaminal rash appeared and his extremities became very pink in colour. His general symptoms were only slightly less, except his failing appetite, which had greatly improved, and he was able to take half an ounce of wheat germ three times a day on the fourth day of the new treatment. Thereafter treatment was solely by wheat germ, half an ounce three times a day, and one "Fertivite" capsule three times a day. After four days of this treatment he was much better and had begun to take an interest in his surroundings and to sleep well. By the tenth day of the new treatment he had almost completely recovered. The wheat germ oil capsules were discontinued after three weeks, but the "Bemax" therapy was continued. One month after commencement of treatment he was well and happy, and has remained so.

Case IX.

L.B., a female, aged eleven months, was the third in the family to have pink disease. Her brother was Case I of this series. This child's condition was a classical example of pink disease of three weeks' duration. She was admitted to Horsham Base Hospital. She had been breast fed until nine months old, when a diet of cow's milk, biscuits and "bits" from the family table was given. It is interesting to note that she had been having a teaspoonful of "Bemax" each day for months.

Thanks to the excellent progress notes and observations of the resident medical officer, Dr. H. McLennan, and the nursing staff of the hospital, it has been possible to prepare a table (Table I) showing at a glance the effects of various forms of vitamin *B* and vitamin *E* on this child. No other treatment was given in the test beyond that indicated in the second column of Table I.

In view of the effect of "Bemax" on the previous patients in the series, I have little doubt that the child would have progressed to complete recovery on "Bemax" therapy in a few weeks. Her condition was certainly improving rapidly when a change was made to yeast on the eighth day. As

TABLE I.

Period.	Treatment.	Symptom.[1]						
		Insomnia.	Irritability.	Anorexia.	Pinkness.	Photophobia.	Hypotonia.	Rash.
Admission	.. ..	++	+++	++	+++	+++	+++	+
1st to 3rd day ..	"Bemax", 3 ounces per day ..	+	+++	+	+++	++	+++	+++
4th to 7th day ..	"Bemax", 3 ounces per day ..	−	+	−	++	+	++	+
8th to 11th day ..	Yeast, 3 drachms per day ..	−	++	−	++	−	++	++
12th to 25th day	Yeast, 3 drachms per day ..	+	+++	−	+++	+	+++	++
26th to 37th day	"Bemax", 3 ounces per day ..	−	+	−	++	−	+	+
38th to 42nd day	"Bemax", 3 ounces per day; "Thiamin", 1,600 units daily (parenterally).	−	+	−	+++	−	+	+
43rd to 53rd day	"Bemax", 3 ounces per day; wheat germ oil, 6 capsules per day.	−	−	−	+	−	+	−
54th to 72nd day	"Bemax", 1½ ounces per day; wheat germ oil, 3 capsules per day.	−	−	−	−	−	−	−

[1] "+++" = pronounced, "++" = moderate, "+" = slight, "−" = absent.

the table indicates, progress was arrested and some of the signs and symptoms were actually intensified during the seventeen days of yeast therapy. The reinstitution of wheat germ therapy on the twenty-sixth day resulted in further progress, which did not appear to be assisted by the daily administration of 1,600 units of "Thiamin", but was definitely assisted by the addition of wheat germ oil. The daily dose of six capsules of wheat germ oil was reduced to three capsules, because on the fifty-second and fifty-third days the child, although apparently well, developed a curious dusky cyanosis, which disappeared when the dose of the wheat germ and wheat germ oil was reduced.

PROBABLE TORSION OF AN OVARIAN CYST IN THE PUERPERIUM: AN UNRECOGNIZED WARNING DURING PREGNANCY.

By MARY C. DE GARIS.

(From the Maternity Unit of the Geelong Hospital, Geelong.)

Clinical Record.

A SINGLE woman, aged nineteen years, a *primipara*, was admitted to hospital on February 17, 1939, complaining of severe intermittent pain in the left side, following the lifting of some furniture on the previous day. The patient was pregnant; pronounced tenderness was present in the left side of the abdomen; the fœtal head was low in the pelvis and the os was closed. The patient was partly edentulous, no caries was present and her diet was fair; she had had no miscarriages and her menstrual periods had been painless. Her condition was regarded as rheumatic, due to ricking of the muscles. She had pain intermittently for a week; then she felt very well. On March 2 she was discharged to a home, where she frequently complained of pain in the legs.

On March 15 she was spontaneously delivered of a living male child, weighing four pounds eleven ounces; the child was weaned early and did well. The confinement took place forty-four days before the expected date; the first stage of labour lasted for twenty-four and a half hours, the second stage for one hour and the third stage twenty minutes. The patient was admitted to hospital with the fœtal head on the perineum.

Her progress was uneventful until the tenth day of the puerperium, except that the temperature rose to 99° F. on the fourth day and 99·4° F. on the sixth day. She was allowed up on the tenth day, and after her return to bed abdominal pain developed. On the eleventh day her temperature was 101° F.; sulphanilamide was given, but was promptly discontinued, owing to the rapid development of cyanosis. Her illness ran a febrile course, with a rise of temperature to 102° F. on the twentieth day. On the twenty-first day she was operated on by Dr. Morgan and transferred to his care. An ovarian cyst full of blood-stained fluid, too adherent to be removed, was opened and drained. She remained febrile with a fluctuating temperature, and a purulent discharge was present part of the time. However, she recovered and was discharged from hospital on May 25; she is now said to be fairly well.

Discussion.

Diagnosis was difficult. At first there were general abdominal distension and tenderness, which settled down gradually to a localized swelling in the lower portion of the abdomen, the tenderness having gone. Fluctuation was noticed on April 1, a twisted ovarian cyst was suspected on April 3, and an X-ray examination revealed a cyst. Before the fluctuation I had diagnosed peritonism, possibly due to sensitivity to sulphanilamide. One consultant thought the condition appendicitis, while Dr. Morgan suggested the X-ray examination that gave the diagnosis. We were all agreed that the pelvis was normal and that the trouble lay above the uterus.

The condition was probably due to sudden torsion of the ovary, causing rapid increase in the size of the ovary and the accompanying peritonism. No doubt the antenatal pain was due to early threats of torsion of the ovary, though why the pain was then on the left side is not clear.

Reviews.

THE CHEMICAL COMPOSITION OF FOODS.

THE first essential in any study of human nutrition or of the dietary treatment of disease is a knowledge of the chemical composition of foods. Under the auspices of the Medical Research Council of Great Britain, McCance and Widdowson have recently compiled a comprehensive treatise[1] on the composition of human foods. This book provides the information, both up to date and authoritative, which all those interested in dietetics need to know. The book comprises the analytical data which the authors have obtained over a period of years. There are notes on the technique of determinations, on the chemical composition of cooked dishes containing several ingredients with their recipes, and then the tables themselves. The last mentioned, which make up the bulk of the volume, are arranged so as to provide the composition of foods on the basis of 100 grammes and again in terms of the ounce.

As well as the usual data the tables include figures for available carbohydrate, the acid-base balance, and for all the important ash constituents. No vitamin determinations are mentioned.

The foods have been classified into the following groups: cereals and cereal foods; dairy products; meat, poultry and game; fish; fruit; nuts; vegetables; sugar, preserves and sweetmeats; beverages; beer; condiments; vegetable

[1] "Medical Research Council of the Privy Council, Special Report Series, No. 235: The Chemical Composition of Foods", by R. A. McCance and E. M. Widdowson; 1940. London: His Majesty's Stationery Office. Medium 8vo, pp. 150. Price: 4s. net.

fats; cakes and pastries; puddings; meat and fish dishes; egg and cheese dishes; sauces and soups.

The classification has been made practical rather than scientific. Thus the cereal group includes starchy foods, such as arrowroot, sago and tapioca; the vegetable group includes tomatoes, and the fruit group rhubarb. "Bovril", "Marmite" and "Virol" have been included among the beverages. A suitable index is given.

Much of this data is here made available for the first time. The book provides a well-arranged authoritative summary of our present knowledge in this field, and as such should prove invaluable to nutrition workers.

THE SECOND EDITION OF "NICHOLLS".

THE appearance of the second edition of Lieutenant-Colonel Nicholls's standard work on military medical science is very welcome at the present time.[1] That the first edition, published in 1936, filled a definite need for a readable book which compressed within reasonable compass the details scattered through numerous official publications is shown by the fact that it was sold out soon after publication. The Army Medical Corps officer on his first appointment looks for a book on lines similar to his text-books of medicine and surgery. Nicholls's is this type of book. It is unique in the English language and it provides the newly joined officer with invaluable and carefully tabulated information, ranging from the strategy underlying the medical arrangements for a whole division to the number of drinking mugs required at a walking wounded collecting post. The senior medical officer often requires a clearly written description of the functions of a certain unit of the medical corps. He finds it in "Nicholls".

The author in the preface to the first edition comments on the amazing misconceptions current regarding the functions of the medical services in war. He points out that many people think that all that is necessary is to have a few doctors and nurses to bind up the wounds of the soldiers, with a bevy of "V.A.D.'s" fluttering in the background. Few have any conception of the magnitude of the organization necessary to keep men fit for action, and also to deal effectively and expeditiously with casualties. Such an organization cannot be static, since new methods in warfare bring new medical problems both in treatment and transport of casualties. It is seldom realized that battles are as likely to be won by the efforts of the medical profession as by the military genius of army leaders or the fighting qualities of the troops. Battles may be decided by the ability of an army commander to throw in reinforcements. It is a main duty of the medical corps to provide these reinforcements by preventing disease and by restoring casualties to the fighting services as soon as possible. When it is realized that in the Great War approximately 80% of all British casualties of sick and wounded were restored to the front line, the value of an efficient medical service becomes crystal clear. In our review of the first edition of Lieutenant-Colonel Nicholls's book we stressed the fact that the Federal Council of the British Medical Association in Australia had on more than one occasion recommended to the Federal Government that an officer of superior rank be sent to England to study the latest methods of army medical service. Since that time Major-General R. M. Downes, the Director-General of Medical Services, has spent some months studying this subject in Britain, in America, on the continent of Europe, and in India, Palestine and Egypt. We are particularly fortunate in Australia that the specialized information he has in this way obtained is now at our disposal.

The second edition of Lieutenant-Colonel Nicholls's book contains three new sections. These maintain the standard of the original sections. They deal with transport of casualties by air, medical services of an anti-aircraft division and medical arrangements for military casualties at home. The section on the transport of casualties by air is of particular interest to Australians, since Australia was one of the pioneers of this mode of transport for civilian casualties. The section dealing with medical arrangements for military casualties at home, which is, of course, an account of the Emergency Medical Services in Britain, is good, but too voluminous. For a military text-book a summary of these arrangements is all that is necessary, and the mass of information in regard to details of diets, charges for board and meals for nurses, and so forth, would be better either in an appendix or omitted entirely. This book is essentially an active service volume, and increase in weight and bulk defeats this object. Similarly for the majority of readers the hundred or so pages devoted to problems and exercises could well be omitted. One exercise could be included as a model for senior officers preparing such schemes, but the multiplicity of examples has little to justify it.

The chapter on evacuation is provocative in its suggestions as to the modification of establishments. We can only concur in the author's suggestion that motor ambulance vehicles should be added to the casualty clearing stations. The extension of independent motor transport to general hospitals and casualty clearing stations is logical in modern mechanized warfare. Light ambulance cars are mentioned in Chapter IX, at page 66. These have no place in present scales. Similarly, the driver of the Maltese cart shown on page 82 as one of the medical establishment of a battalion has been replaced by an Army Service Corps driver of the superseding motor vehicle. For future readers confusion may arise from the frequent references to "the war" without indication as to which war is meant.

Any criticism of Lieutenant-Colonel Nicholls's work can, however, be only in regard to detail and does not detract from the general excellence of a book which will be eagerly read by every medical officer who is keen on his job. These medical officers can be assured that they will find abundant knowledge presented to them in an interesting and usually concise form. Military medicine is a fascinating science. Nicholls's book helps us to understand its fascination.

[1] "Organization, Strategy and Tactics of the Army Medical Services in War", by T. B. Nicholls, M.B., Ch.B., with chapters by A. S. Glynn, M.B., Ch.B., K.H.S., R.A.F., A. R. Laurie, M.B., Ch.B., D.M.R.E. (T.A.), and F. G. Lischer, M.C., M.A., M.R.C.P. (T.A.); Second Edition; 1940. London: Baillière, Tindall and Cox. Crown 4to, pp. 816, with 651 illustrations. Price: 33s. net.

A MANUAL OF PATHOLOGY.

IT has been said that it takes ten years to get a new fact into a text-book and a lifetime to get it out. This general condemnation does not apply to "Green's Manual of Pathology",[1] the new edition of which is a pre-blitzkrieg war baby, having been born in March, 1940. The detail in this book has definitely moved with these moving times.

The result of war-time realities (perhaps there is something in pre-natal influence after all) can be seen in a definite "shift to the left" away from the academic to the practical.

The preface strikes two notes which should find sympathetic resonance in every medical school. The first note is that students should be taught less, but taught it more thoroughly. In murmuring an "amen" to this we should like to add that principles are more important than detail. A student should not be expected to be a mental gymnast.

The second note which is in tune with our outlook is that disease is a process and not a series of unconnected static incidents. This edition puts the second note into practice, but the reviser regrets his inability to apply the first because of the ever-widening field of examination schedules; for this we do not commend him.

It is to be noted that in this edition the word vitamin is still spelt with a final "e". We drew attention to this error in our review of the last edition of this book.

SURGICAL ANATOMY.

THE fourth edition of Mr. Grant Massie's book "Surgical Anatomy" has appeared within the short space of three years since the publication of the third edition.[2] This edition does not differ greatly from the previous one. There are, however, a number of new illustrations, and nearly all the X-ray illustrations have been replaced by new ones.

While there are many facts of anatomical and surgical importance to be found in this work (it compares favourably with others of a similar nature), it is unfortunate that both in the text and in the illustrations we get too much of the static viewpoint and not enough that is dynamic. Space could be found for new material by reduction of much of the merely descriptive anatomy that has no particular application.

The book is very well printed, and once again there appear a number of excellent illustrations from Taylor's "Operative Surgery", due acknowledgement of which is made by the author.

[1] "Green's Manual of Pathology", revised and enlarged, by H. W. C. Vines, M.A., M.D.; Sixteenth Edition; 1940. London: Baillière, Tindall and Cox. Royal 8vo, pp. 1174, with 701 illustrations. Price: 31s. 6d. net.

[2] "Surgical Anatomy", by G. Massie, M.B., M.S., F.R.C.S.; Fourth Edition; 1940. London: J. and A. Churchill Limited. Medium 8vo, pp. 489, with 158 illustrations. Price: 21s. net.

The Medical Journal of Australia

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All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

HEALTH AND INDUSTRY.

THE article by H. L. Kesteven on the work of a medical industrial efficiency department that is published in this issue is opportune. If discussion on a subject in the pages of a medical journal is any indication of the interest that readers of the journal are taking in that subject we must conclude that for some little time interest in industrial hygiene in Australia has flagged. Work, however, is still being done. It is true that the Division of Industrial Hygiene of the Commonwealth Department of Health no longer exists; but the Department of Public Health in New South Wales still has its industrial hygiene officers and each year important investigations carried out by Dr. Charles Badham are recorded in the report of the Director-General. From time to time other work bearing on health hazards in industry is reported. Though at the present time more attention is perhaps paid to industrial hygiene in America than in other parts of the English-speaking world, most of the pioneer work in this field was carried out in Great Britain. The war of 1914-1918 provided a great stimulus to investigations of industrial diseases and to conditions under which work was performed. In the words of A. J. Lanza, the war "made of industrial hygiene a live and vital thing" and produced the Health of Munition Workers Committee which has been responsible for important investigations ever since it was established. Today war is upon the British peoples once more; and not only in England, but in every part of the Empire as well as in the United States of America, the demands of a total war have resulted in intensive and extensive industrial activity that is unprecedented in any of these countries. We may be quite certain that in Great Britain the health hazards will increase, not only because of the kind of work that is being done, but also because of the wear and tear on the nervous systems of a devoted people who are forever exposed to the dangers of bombardment from the skies. In other places such as Australia the health of the worker will need to be more carefully guarded as he gives more and more of his energies of mind and body to the task that is so obviously his. In these circumstances we may look for further advances in industrial hygiene, advances that will be of immediate help to the country and in the long run of the greatest value to the worker.

That considerable attention is being paid to industrial hygiene in Great Britain at present is shown by leading articles in recent issues of *The British Medical Journal*[1] and *The Lancet*[2] which discuss the implications of a recent order made by the Minister of Labour and National Service. In America, too, the same subject has recently been discussed by L. D. Bristol, of New York, who in October, 1940, gave an address entitled "Industrial Health and National Defense" to the International Society of Medical Health Officers.[3] The order of the Minister of Labour and Industry in Great Britain makes it necessary for the occupier of any factory in which work for the Crown is being done to appoint whole-time or part-time medical practitioners or nurses, or both, to supervise the health and well-being of the workers, if it should appear to the Factory Department of the Home Office that such an appointment is necessary. *The British Medical Journal* points out that *The Factories Act* of 1937 had already given the Secretary of State power to insist that reasonable arrangements for medical supervision should be made in factories where there was reason to believe that injury to health was being caused or was likely to be caused by conditions of work or where juveniles were subjected to risk. "The new Order only translates into a decree what progressive employers have for many years been doing on their own initiative." We are also told that in the period before the present war only 10% of all workers were in concerns large enough to justify the employment of whole-time officers. *The Lancet* tells us that there are at the present time about fifty doctors employed full time by larger firms. Many more might have been employed had it not been that the national insurance system of Great Britain entitled each worker to advice from his panel doctor. There are 1,700 medical practitioners who are acting as examining surgeons, and their main duty consists in the medical examination of young entrants, periodical examination of workers engaged in certain dangerous processes and certification of scheduled industrial diseases under workmen's compensation acts. Nine medical men deal with men engaged in industries which carry a risk of silicosis or asbestosis; and there are eleven whole-time medical inspectors "whose knowledge and experience of industrial diseases entitles them to investigate conditions adverse to health and well-being in any factory throughout the country". In America the American Medical Association has created a committee known as the Council on Industrial Health "to assist the physician individually and through the agencies of the medical organization to enlarge and improve his contribution to the health of the industrial worker". Readers will find a comprehensive statement on the work of this body in *The Journal of the American Medical Association* of February 17, 1940. It is calculated that approximately 50% of the population over ten years of age fall within the scope of industrial preventive medicine. In an editorial in the same issue of the American journal it is stated that 97% of all manufacturing concerns employ fewer than 250 men and that almost 70,000 of them employ

[1] *The British Medical Journal*, August 31, 1940.
[2] *The Lancet*, August 24, 1940.
[3] *The Journal of the American Medical Association*, October 12, 1940.

five wage earners or fewer. At the same time it is to be noted that, in the statement already mentioned, are details of 611 industrial plants covering 1,120,000 employees. In 1938 there were 345 medical men who limited their practice to industrial medicine and 1,054 who gave special attention to it.

From the foregoing it will be seen that both in Great Britain and in the United States of America there is wide recognition of the value of industrial hygiene legislation and practice, and those who know its value are making efforts to extend the practice. In this regard Bristol's address should appeal particularly to Australians and a slogan might almost be made of his opening sentence: "An adequate national defense requires a vigorous health offensive." There is no need to traverse the arguments that can be advanced in favour of the adoption of industrial hygiene measures; Kesteven mentions many of them. At the same time emphasis should perhaps be laid on the need for careful selection and proper training of medical practitioners for this work. Unless a wise selection is made and adequate training is given, any attempts at the institution of industrial hygiene measures are foredoomed to failure. The Chairman of the Association of Industrial Medical Officers in Great Britain has recently suggested in a letter[1] that assistance should be offered to employers in the making of appointments and that all appointments should be approved by the British Medical Association Central War Committee, and also that a short course of instruction should be instituted for appointees. Obviously a knowledge of medicine only is not sufficient, nor is experience in what is known as applied psychology an "open sesame"; an industrial hygiene officer must have some understanding of the industrial processes adopted by those whose health he is supervising.

It should be noted that in most of the contributions on this subject to medical journals emphasis is always laid on the value of industrial hygiene to industry, of the resulting efficiency and the reduction of days on which employees are absent from work owing to illness. *The British Medical Journal* refers to "progressive employers", *The Lancet* to increased output and so on. Increased output is necessary during this war as it never was before and it is necessary in Australia as well as in England and the United States of America. The point is that if industrial hygiene measures are good we should not have to wait for employers to be "progressive" before they are instituted. The Minister for Labour and National Service in Great Britain has seen this and has wisely used his powers to issue the order already mentioned. At present the practice of industrial medicine is almost confined to large commercial concerns; as *The Journal of the American Medical Association* points out, the field of the small plant is almost unexplored. The worker in the small plant is just as entitled to all the advantages of industrial medicine as the worker in a large plant. In our opinion a great deal of headway can be made in this country if workers themselves can be made to realize the enormous advantages that would accrue to them if the practice of preventive medicine were made an integral part of industry. That the worker would gain in his freedom from illness and in general well-being is so clear to all medical readers of this journal that the point need not be argued. If the workers could be made to see what benefits they would gather for themselves, they would demand what at present has more often than not to be forced on them either by progressive employers or by legal enactment. Once the cooperation, the keenness of the worker to conserve his own health can be enlisted, not only will industry run more smoothly and efficiency, so necessary at present, be increased, but workers will be more contented than they are and Australia will be a healthier and a happier country.

[1] *The British Medical Journal*, August 24, 1940.

Current Comment.

THE PREVENTION OF DIABETES MELLITUS.

THOUGH heredity is one of the predisposing causes of *diabetes mellitus*, and the disease is sometimes familial, over-nutrition in relation to the amount of physical exercise taken is thought to be equally important. Many writers point out that one of the features of modern life is a reduction of the amount of physical work performed with an increase in the quantity of food eaten. Sugar is consumed in large amounts. Stress has been laid on the wide use of motor cars and the increase in carbohydrate in the food of some countries. Much of the diabetes in the community, however, has no obvious cause and the prevention of the disease is a matter of considerable difficulty. When therefore a paper entitled "The Prevention of Diabetes" is published from the Department of Physiology and the Department of Physiological Hygiene of the University of Toronto by such workers as R. E. Haist, James Campbell and C. H. Best,[1] attention is at once arrested.

These authors admit that the title of their article is provocative and point out that their studies have been concerned largely with the factors that affect the insulin content of the pancreas. In the first part of their paper they show that when a large portion of the pancreas is removed from dogs, the islets of the remnant become exhausted, probably from over-function. In these circumstances the overwork results from the fact that less pancreas is available. A condition of the pancreas similar to that found in animals that have been deprived of part of the pancreas is observed in dogs to which daily injections of anterior pituitary extract are given, and the insulin content of the pancreas falls gradually to a very low level. At the same time there takes place a progressive degranulation of the β cells of the islets and this is followed by degeneration. If the injections are not continued for too long a period, the islet cells may recover and the insulin content return to normal. The changes noted after the injection of anterior pituitary extract are similar to those observed in animals from which portion of the pancreas has been removed, and they are probably due to the same cause—overwork. In the one case, however, the whole pancreas is involved and in the other only a remnant. Haist, Campbell and Best state that there is no evidence to support the possibility that the anterior pituitary extract exerts any primary and direct degenerative effect on the islet cells.

It has been found in experiments on rats that fasting, the feeding of fat or the administration of insulin leads to a decrease in the insulin content of the pancreas; this decrease is not associated with degeneration of the islet cells. The daily administration of protamine zinc insulin augments the effect of fasting or fat feeding. Further, it has been shown that daily injections of protamine zinc insulin given to animals receiving anterior pituitary extract tend to prevent the reduction in the insulin content and the degenerative changes that follow administration of the extract. The feeding of fat or fasting acts in a similar fashion. In other words, while extensive removal of pancreatic tissue and the administration of anterior pituitary extract lead to exhaustion of the islet cells, largely through overwork, fasting, fat-feeding and insulin administration allow the islets to rest.

[1] *The New England Journal of Medicine*, October 17, 1940.

It is on the findings here set out that Haist, Campbell and Best base their discussion. They assume that the factors which prevent diabetes from developing will also tend to limit its progress. The procedures which permit the pancreatic islets to rest, namely, fasting, the feeding of fat and the administration of insulin, prevent or hinder the development of the diabetic state under experimental conditions. These procedures affect the pancreas in a manner opposite to that of high carbohydrate diets and, as already stated, prevent the untoward effects of anterior pituitary extract. While on the one hand there is no evidence that the factors that rest the pancreas cause permanent damage to liver cells, there is on the other hand proof that factors leading to over-activity may produce permanent changes. If a clinician believes that a patient will be benefited by stimulation of the islet cells, diets rich in carbohydrates are indicated. If, on the other hand, the clinician believes that a useful purpose will be served by resting the pancreas, fasting, the feeding of fat or the administration of insulin may be used. It may appear, in the presence of extensive islet destruction, that there is no point in the adoption of these procedures. Here it must be remembered that a reduction of strain on the remaining islets may allow the restoration of some exhausted cells to take place. The length of time for which exhausted cells retain their power of recovery varies in different animals, and it is not known what the period is in man. In any case, Haist, Campbell and Best conclude that resting procedures serve two purposes: they prevent the occurrence of degenerative changes in cells not already affected, and they permit the restoration of exhausted cells that still retain their ability to recover. If it is thought that protection is needed, the most suitable clinical procedure must be chosen. "The prophylactic administration of insulin to potential diabetic patients may become an accepted clinical procedure in the future." Haist, Campbell and Best suggest that the incidence of diabetes should be investigated in two large and comparable groups of children with a family history of the disease. One group, they think, should be given a normal diet and the second a diet as low in carbohydrate and protein and as rich in fat as is feasible. The second group should also receive insulin in amounts that might be safely given under the conditions of the investigation. They admit that an investigation of this type would be difficult, but they rightly maintain that the goal would justify the endeavour. The paper by Haist and his two collaborators is full of interest and, as they themselves state, provocative. It will probably make clinicians think of diabetes in terms of the state of the islet cells of the pancreas, and this will be all to the good. At the same time the type of diabetes in which the patient is resistant to insulin must not be forgotten. For an interesting discussion on this aspect of the subject the reader is referred to the first of the Croonian Lectures by George Graham, published in *The British Medical Journal* of October 12, 1940. If the large-scale experiment suggested by Haist, Campbell and Best could be carried out, and some attempt could be made to practise prevention by discovering when the islet cells required stimulation and when they needed rest, it might then become possible to reveal the causation of the disease, and that must be the object of all our present endeavour.

PREVENTION OF PERNICIOUS ANÆMIA.

THE claim, recently made by J. M. Askey,[1] that among the relatives of sufferers from pernicious anæmia can be found an unusually large number of persons with gastric achlorhydria and that of these many subsequently develop anæmia of the same type, suggests a means by which this grave disease can be brought under better control. The discovery of liver therapy for pernicious anæmia robbed this condition of many, but not all, of its terrors, for though the exhibition of liver can bring the disordered blood picture back to normal and can largely prevent the onset of nervous complications, it cannot make good damage that has already taken place in the nervous system. Subacute combined degeneration of the spinal cord is still responsible for far too many deaths and too much crippling. Diagnosis of pernicious anæmia in its early stages, before nervous degeneration has occurred, must be our aim if we are to improve this situation. Minot claims that ordinarily the diagnosis of pernicious anæmia is made over a year after symptoms have been established. Frequently but not always the patient is to blame. Askey's contribution may assist the alert and conscientious physician to establish an early diagnosis in some of these suspected cases simply because he recognizes the possibilities. It is becoming more and more widely accepted that there exists an hereditary predisposition in pernicious anæmia, though in any one case it may be difficult to prove. Askey reviews the evidence in favour of such a claim, citing 235 examples of multiple familial occurrence. The records of 215 families have been drawn by him from the literature, but no less than 20 examples have occurred in his own experience. He suggests that the significant hereditary factor is a recessive one, and describes one particularly interesting family to illustrate the way in which consanguineous marriage makes such a recessive trait manifest. Two first cousins married and had 13 children, of whom four developed positively diagnosed pernicious anæmia and one other was said to have died of the disease. Suggestive evidence of the hereditary nature of the disease is also supplied by its occurrence in both of a number of pairs of identical twins.

Feeling that such evidence strongly suggested that inheritance was of real importance, and knowing that achlorhydria probably preceded the blood changes for a considerable period in most sufferers from pernicious anæmia, Askey set about looking for this gastric deficiency in the near relatives of pernicious anæmia patients. He performed a histamine gastric analysis in 61 such persons, and of them 10 had achlorhydria. The 51 with normal gastric secretion were arbitrarily considered as in no imminent danger. The remaining 10 were considered as potential sufferers, but were not warned of early symptoms, lest a phobia might result in the premature eating of liver, thus masking any anæmia that might develop. Of the 10, four have in fact given evidence of early pernicious anæmia, two have developed hypochromic anæmia, three have normal blood and one cannot be traced. Some of the relatives of the original patients refused to submit to gastric analysis. Two of these, in good health at the time, have since developed pernicious anæmia with cord involvement, though only two and five years respectively have elapsed since the original interview. It is more than likely that gastric achlorhydria would have been revealed at that time, and the individuals afforded the opportunity of closer observation and earlier diagnosis. It is realized that achlorhydria is a common condition and that probably not more than one in three or four hundred persons so affected will develop pernicious anæmia. If, however, there is a family history of pernicious anæmia as well, the risk becomes very much more real.

While this work is not yet extensive enough to be accepted as finally conclusive, it is at least very suggestive, and has two important corollaries. In the first place, if a patient is known to have a family history of pernicious anæmia, it is important to know if he also has gastric achlorhydria. In the second place, if a patient has achlorhydria, it is just as important to know whether he has pernicious anæmia in the family. For while either of these stigmata alone can probably be disregarded, together they represent a real hazard. Of Askey's group of ten, four have already developed the disease. The risk can probably be regarded as maximal in persons approaching or beyond middle age, for pernicious anæmia is rare in young people. We recognize the difficulty of making gastric analysis on all the relatives of pernicious anæmia patients, but it is to be commended for two reasons: firstly, because of the probable benefit to any of the persons in whom achlorhydria is found, and secondly, because many more data are needed before this thesis can be accepted as conclusive. The clinician is here afforded an opportunity of an investigation of real value. In the meantime we congratulate Askey on his work.

[1] *Annals of Internal Medicine*, October, 1940.

Abstracts from Medical Literature.

OPHTHALMOLOGY.

Experiences with Corneal Grafting.

IMRE (*Klinische Monatsblätter für Augenheilkunde*, May, 1940), in carrying out a corneal grafting operation, cocainizes the eye and injects "Novocain" under the lateral bulbar conjunctiva. He dissects a flap after making a vertical incision 10 millimetres from the limbus. Sutures are inserted through the edges of this flap and the conjunctiva above the nasal margin of the cornea. Their tying is completed when the graft is in position. He uses corneal sutures only when the conjunctiva is inadequate to cover the cornea without undue tension. In the majority of cases he has used von Hippel's trephine. He operated on nineteen blind eyes to discover if grafts would remain transparent in absolutely cicatrized corneæ. Only one graft remained transparent. He operated on fifty-three other patients and in twenty-three instances obtained permanent and marked improvement in visual acuity. Good results were obtained in eleven cases of old interstitial keratitis. One was very severe, with central necrosis and flattening of the cornea. The cornea regained its normal curvature. Though cases in which adherent leucoma and lime burns are present are less suitable, the author has obtained several good results. In one eye with trachomatous pannus a cataract was found; two months after the grafting this was extracted. Such cases and those with central scars after lymphatic corneal inflammation are favourable as long as there is no secondary rise in tension. Sometimes the conjunctival flap adhered to the edge of the graft, but it was easily released with an iris spatula. The material for grafting was obtained from living eyes. The author believed that the corneæ of older people, in particular those from old glaucomatous eyes, are much less inclined to swell or become clouded. Those with an intraocular tumour are almost as suitable and much more suitable than those that have suffered a perforation.

Night Blindness in Warfare.

VON HOFE AND GLEES (*Klinische Monatsblätter für Augenheilkunde*, April, 1940) emphasize the added importance of hemeralopia since blackouts have become frequent. In testing adaptation to light they used Trendelburg's apparatus, and for adaptation to darkness Engelking-Hartung's adaptometer. They realized that adaptation to darkness is subject to large individual variations and that the best possible adaptation should be considered to be normal. Their main problem was to ascertain the ability a soldier must possess in the field in order to find his way safely. One hundred soldiers complaining of difficulty were tested after five minutes of adaptation to light, immediately after darkness, and after 2, 3, 4, 5, 7, 10 and then every 5 minutes. The upper margin of the illuminated field was fixed. After 30 minutes the normal person has an appreciation of sensibility of 15,000. The authors found that the majority of 50 soldiers manifested a value reduced to 5,000 or less after this time. The army regulations refer to night blindness of a slight and of a considerable degree. The authors ask: Where is the boundary? They considered that a value of 5,000 after 30 minutes represented only one-third of normal. This they thought should disqualify a recruit from military service. Von Hofe experimented with 75% umbral glasses and found that with them a bicycle with a dimmed light that was normally seen at 50 to 60 metres was not seen till it was 12 metres away. Values between 6,000 and 10,000 would not disqualify a recruit unless there were additional errors of refraction *et cetera*. The authors uphold Piper's view that the power of adaptation is reduced by half when binocular vision is suppressed, as in unilateral loss of an eye or amblyopia. They admit that it is impossible to submit each recruit to a thorough examination, but emphasize the wisdom of asking whether there is any visual defect in reduced illumination. A considerable number of their hemeralopes were myopic, namely, 40. Six had *retinitis pigmentosa*, and in eight others there were other disturbances, such as coloboma and *ectopia lentis*. Eighteen were amblyopic on one side, and sixteen on both sides. It is concluded that in special circumstances, such as overexertion, debilitating illness and nervous exhaustion, hemeralopia of a slight degree may have a devastating effect.

Macrocornea and Hydrophthalmia.

VON HOFE (*Klinische Monatsblätter für Augenheilkunde*, March, 1940) states that a corneal diameter of 12·5 or 13·0 millimetres is abnormally large, and that a cornea possessing such a diameter can be classed as a macrocornea. From his clinical observations he has concluded that a genetic relationship exists between this condition, congenital glaucoma and hydrophthalmia. He reports two families each containing one individual with congenital glaucoma and many with large corneæ and apparently healthy eyes. He disagrees with Kayser, who regards the latter as examples of *hydrophthalmia sanatus*. In each family the mother of the hydrophthalmic child had a cornea with a diameter of 12·5 millimetres and a radius of curvature of 8·25 and 7·5 millimetres. The author asks whether the relationship is a coincidence, for, according to Friede, 5·8% of people have a cornea of 12·5 millimetres diameter; whether the slight macrocornea produces a disposition to glaucoma; and whether the two conditions are related genetically.

Cataract and Familial Megalocornea.

KLAR (*Klinische Monatsblätter für Augenheilkunde*, March, 1940) discusses the inheritance of megalocornea, which, though usually recessive, may show signs suggestive of dominance. As illustrations of this he refers to Rossi's two brothers, one with an affected son, Peter's father and two sons and families reported by Friede and Gredig. The author considers that his patient and his brother and son had megalocornea, even though they and several relatives had an unusually large corneal radius. This dimension is usually less than normal in megalocornea, and greater in congenital glaucoma. The type and extent of the lens opacities in the two brothers showed no similarity. A cataract was removed from one of them by the intracapsular method, and it surpassed in size and weight the highest known values, namely, 11·25 millimetres lateral diameter, 6·5 millimetres axial diameter, and 0·33 gramme in weight. The author emphasizes the value of the removal of cataracts by the intracapsular method, so that in time sufficient information will be available to justify an answer to the question as to whether the lens plays a fundamental part in the enlargement of the anterior part of the eye in megalocornea.

Simple Methods for Estimating Light Perception.

COMBERG AND RAUHUT (*Klinische Monatsblätter für Augenheilkunde*, May, 1940) describe two methods for the estimation of the perception of light. The adaptometer and the Birch-Hirschfeld apparatus are expensive, time-consuming, and not always available when required. They frequently require greater visual acuity than is present. Occasionally it is desirable to estimate light perception of an eye with a recent wound and vitreous disturbance, with occlusion of the pupil, cataract or vitreous opacities, or with iridocyclitis. The oculist requires a quick and simple test that has almost universal application. The authors' tests appear to satisfy these conditions. The first is the comparative parapalpebral test for use if the second eye is normal. The perception by each eye of radiations from the ophthalmoscope light through the closed lids is compared by measuring the distances at which the light appears equally bright to the eyes. The value of the light stimulus for both eyes is inversely proportional to the intensity or directly proportional to the square of the distance. In this way the light stimulus value of one eye is found to be equal to or from half to one-thousandth of that of the other eye. In addition to this, the authors describe another simple test. The only instrument required is a small lamp with a specially constructed Aubert blind. Within the lamp is a 40-watt opalescent glass globe. The light from this shines through the adjustable square aperture in the blind. The patient sits in the dark for half an hour and then is seated in a roller chair facing the lamp. The eye not being examined is covered with a black bandage, while the other is kept closed. By use of a small shutter aperture it is possible to determine the distance at which the illumination of the lamp is recognizable through the lid. Several readings should be taken by alternately covering and exposing each eye to the light. If, for example, the limit of distinction between the light with an aperture of four square millimetres and darkness lies at a distance of one metre instead of seven, the sensitivity to light equals one-forty-ninth of normal. The authors discuss the importance of such tests for several patients each with a group of varied conditions. One was a patient with corneal opacities and aphakia in one eye and a brown cataract in the other. The question of a retinal lesion in this eye was solved by finding that the difference in the thresholds of the eyes could be explained by the presence of the cataract alone. It was held that brown cataracts and vitreous hæmorrhages absorbed light, but that corneal maculæ, common and traumatic cataracts and opacities of the vitreous without hæmorrhage did not alter the value of the light stimulus. In the treatment of another patient with cataract and retinal detachment, extraction was contraindicated by the reduction of light perception to one-twelve-hundredth of normal. A third patient had glaucoma and cataracts. The comparative test showed that the light perception of the

left eye was one-quarter of that of the right eye. The reductions as shown by the quantitative test were one-twenty-fourth and one one-hundredth of normal. This loss was so great that glaucoma was held largely responsible.

A Simple Adaptometer.

GLEES (*Klinische Monatsblätter für Augenheilkunde*, August, 1939) describes a new instrument produced as a result of a grant from the Imperial Air Ministry. He refers to difficulties experienced with the Moller-Edmunds skotoptikometer, which is an application of Tscherning's photometric glasses. The author claims that his apparatus is convenient, easily movable, and suitable for use in any dark room. Several persons can be examined at the same time. The examiner need not be adapted to the dark, and a control person and a special light source are not necessary. Two neutral grey disks, each with an aperture of 1·5°, are fitted in the front of the apparatus. Close behind them is an arrow-shaped test sign which is fastened to a ring that may be turned. It has one notch on one side and two on the other, so that the position of the arrow can be felt by the examiner in the dark. For removal of the dazzle the dark lantern from Pulfrich's graded photometer is used. The position of the drum is shown by a shaft of light which sends a feeble red ray to the drum. A 15-watt lamp serves as a source of light. The distance of observation is half a metre. The size of the test sign is so large that visual acuity does not play any essential part in its recognition. The recording of the course of adaptation is simplified by use of the dark lantern and the lantern scale of the Pulfrich apparatus. The division of the drum shows the intensity of the light admitted through the lantern. If these values, which are indicated on the drum in logarithmic progression, are recorded in a curve, a course corresponding closely to Matthey's standard is obtained. Certain marks are put on the drum that correspond in position to the aperture of the lamp and the time taken by normal people to see the test sign. After five minutes, on an average, such people will recognize the test sign when the drum is at mark ten and after twenty minutes at mark 0·15.

OTO-RHINO-LARYNGOLOGY.

The Canine Fossa.

WILLIAM J. MELLINGER (*Archives of Otolaryngology*, June, 1940) has made a study of the canine fossa in 200 skulls and many wet specimens. He concludes that the nerve and the blood supply reaches the teeth through small canals within the thin bony wall of the antrum. The arrangement is so variable that it is impossible to foretell the extent of possible disturbance in function after an operation through the canine fossa. The direction of the incision through the soft tissues bears no relation to the disturbance of sensation in the teeth. Transmitted light is of value in the locating of the alveolar canals as they cross the canine fossa. The inverted T-shaped incision suggested by Ziegelman offers good exposure with a minimum of traction. The infraorbital foramina are situated at variable distances below the infraorbital margin, but are usually on a level with the attachment of the anterior end of the inferior turbinate bones. The opening is often directed towards the central incisor of the opposite side, a point to remember in attempts to make an injection into the canal. The depth of the canine fossa has a bearing on the ease with which the Caldwell-Luc or the Denker operation may be performed.

Cancer of the Naso-Pharynx.

HAYES E. MARTIN AND JOHN V. BLANDY (*Archives of Otolaryngology*, October, 1940) discuss cancer of the naso-pharynx and conclude that it makes up about 2% of all malignant growths of the head and neck. Because of the absence in many cases of early local symptoms in the naso-pharynx, the diagnosis is frequently delayed or missed. The disease is characterized by early metastasis to the cervical lymph nodes and extension intracranially and to the orbit. The surgical inaccessibility of the primary lesion and its high radiosensitivity make irradiation the treatment of choice, and a combination of external and intracavitary irradiation gives the best results. Cervical metastases from this rapidly growing, highly anaplastic tumour also are best treated by irradiation. In the head and neck clinic at the Memorial Hospital, 87 patients were treated from 1930 to 1934 inclusive, with a net five-year cure rate of 25%.

Innocuous Oils Useful in Rhinological Practice, in Contrast to Liquid Petrolatum.

FRANK J. NOVAK (*Archives of Otolaryngology*, August, 1940) discusses the therapeutic value of oils in rhinological practice. The use of any medicament in the nose, except ephedrine in physiological solution of sodium chloride, is hazardous for some persons. According to Ikeda, no type of oil should be used in the nose of persons with lesions of the tongue, lesions of the pharynx, or hemiplegia or "some other neurogenic disturbance". What applies to oil applies with equal force to practically all the commonly employed drugs, whether in oily or in aqueous vehicles. Furthermore, infants, debilitated children and the aged are more likely to aspirate fluids taken either into the nose or orally, and for these persons the use of liquid petrolatum or of any other kind of oil is clearly contraindicated. But, when indicated, the use of oil, with care and judgement and in the rhinologist's office, may not be criticized, in view of the fact that legitimate differences of opinion exist regarding its therapeutic efficacy. It is, however, safer to use vegetable oils than mineral oil. The indiscriminate self-medication with various oils by the laity should be condemned.

The Diagnosis and Treatment of Cancer of the Tonsil.

WALTER L. MATTICK (*Radiology*, September, 1940) states that cancer of the tonsil has an incidence of 1% of all cancers and 10% of all intraoral cancers. In the common or squamous-cell types the affected tonsil is indurated, ulcerated, enlarged, fungating or infiltrating. The lesion may involve any or all of the adjoining structures. This picture may even resemble lymphosarcoma rather than epithelioma. After a positive pathological diagnosis has been made, external irradiation is given to the side involved and its gland-bearing first-line defences. Cross-fire method of treatment is employed from the opposite side of the neck. After the subsidence of "mucositis", the residual tonsillar tumour should be implanted with radon gold seeds. During the course of X-ray or radium therapy careful oral hygiene should be instituted. Local extensions or recurrences may be treated by further radon gold seed implants of low intensity, by intraoral X-ray treatment or by moulded radium applicators inserted in the mouth. External irradiation should not be repeated within a period of three or four months after the first application. Since the advent of improved methods, three-year arrests from this disease may be expected in from 35% to 40% of the earlier cases, without metastasis. In the group with metastatic involvement of the cervical glands, the results, while less spectacular, are equally impressive, for it was in this group that little or no surgical aid was previously offered. The author states that in the earlier days of such therapy the results were discouraging, only 1% of patients remaining alive for more than three years. In a later series of cases in which an improved irradiation technique was employed, results have improved to three-year arrests of all manifestations of the disease in 19% of cases.

Cavernous Sinus Thrombosis.

LEWIS F. MORRISON AND MEYER SCHINDLER (*Archives of Otolaryngology*, June, 1940) describe a case of cavernous sinus thrombosis in which recovery followed sulphapyridine therapy. Sulphapyridine was used as a chemotherapeutic agent; a total of 63 grammes (945 grains) was administered. Excepting mild cyanosis, no subjective or objective reaction to the drug was observed. The diagnosis of cavernous sinus thrombosis was made on both clinical and laboratory findings.

Otomycosis.

MERRILL O. DART (*Archives of Otolaryngology*, June, 1940) discusses the treatment of otomycosis and concludes that it occurs much more frequently than the text-books suggest. It is frequently overlooked in the treatment of *otitis externa*. Otomycosis has not always been treated properly. Recent experimental work has furnished better methods of treatment. Powdered silver picrate is not effective in the treatment of otomycosis. Metacresyl acetate (cresatin) and thymol have the greatest fungicidal activity of any drugs now available.

Acute Infections of the Epiglottis.

J. MACKENZIE BROWN (*Archives of Otolaryngology*, October, 1940) gives a review of the literature of acute infections of the epiglottis. The epiglottis may be the site of localized infection or of abscess formation without involvement of the adjacent pharynx or larynx. Such infections may be primary, due to trauma, or secondary to adjacent infection. Infections of the epiglottis have their own peculiar and fairly constant symptoms and findings. In the experience of the author, an abscess may occur as readily on the laryngeal as on the lingual surface, a fact substantiated by recent histological study. If the foregoing facts are realized, earlier diagnosis and proper treatment may be employed to prevent serious complications.

Special Articles on Psychiatry in General Practice.

(Contributed by request.)

XXIX.

CRIME AND INSANITY.

A DISCUSSION on crime and insanity must necessarily take into account the legal and psychiatric points of view. The law is concerned with the protection of the lives and property of citizens and the punishment of transgressors; psychiatrists, on the other hand, are more interested in the *raison d'être* of crime rather than in the actual crime itself. The law is old and conservative, and is dominated by centuries of tradition. Psychiatry is new and probably suffers from the ultra-enthusiasm engendered by youth and inexperience. The gap between the old and the new is so wide that all attempts to bridge it have failed.

In spite of a voluminous literature and numerous theories, the exact relationship between crime and insanity is still far from clear, and in actual practice resolves itself into a study of each individual case. A patient accused of crime may be certifiably insane. He may be suffering from any one of the numerous forms of mental disease, such as acute mania, acute melancholia, delusional insanity in any of its forms, schizophrenia, dementia in any of its forms, one of the grosser forms of mental deficiency, and so on. In such cases the patient is usually certified as insane and sent to a mental hospital. Whether the crime he has committed is the direct result of his mental disease or not is more of academic rather than of practical interest.

Criminals who are manifestly insane present no difficulty. The real trouble is met with in the borderline cases. The stages from sanity to insanity are infinite in number, and more often than not even the most experienced psychiatrists sharply disagree in their summing up of a borderline case. It is precisely because of this disagreement that the evidence of psychiatrists is so often discredited in criminal cases.

There can be no doubt that many crimes are committed by patients in the early stages of a psychosis. The onset of general paralysis of the insane may be signalled by the patient's committing some crime. Many men who have led exemplary lives and who in advanced years are guilty of foolish acts and crimes, such as thefts, indecent assaults on girls, gross sexual and alcoholic indiscretions and the like, are undoubtedly suffering from a defect in judgement and reason associated with the early stages of senile dementia. The onset of acute melancholia may be ushered in by the patient's attempting suicide, and so on.

Many patients with mild forms of mental disease are quite capable of carrying on with their everyday avocation. It is in the judgement of these mild cases that psychiatrists strike so many difficulties. A patient may suffer from manic-depressive insanity in a very mild form, and during his period of elation he may be guilty of many alcoholic and sexual indiscretions and acts of bravado, which may end in crime. Psychiatrists contend that he is just as much a victim of mental disease as the one who is certifiably insane, and that, therefore, he is not responsible for his crimes. But even if this is so, where are we to draw the line, seeing that most normal people are subject to mild attacks of elation and depression? Again, the great majority of epileptics are quite able to carry on their everyday life away from institutions. Most epileptics are irritable, aggressive, religiose and fault-finding. Some suffer from automatic actions during their seizures, and expose themselves. Some become aggressive and, in rare cases, are guilty of murder. In such cases the patient is not responsible for his actions. But as there are epileptics who are criminals and whose criminality cannot be ascribed to their epilepsy, it is a matter of very fine discrimination and judgement to decide what part, if any, the patient's epilepsy played in his crimes.

The evaluation of these less general forms of insanity depends largely on the history of recent alterations in the patient's conduct and actions. For example, when the thrifty man becomes a spendthrift, the highly respected man is guilty of foolish indiscretions, the well-dressed man or woman becomes careless in dress, we are justified in suspecting the onset of some incipient mental disease. The general practitioner who has known the patient for some time is usually in the best position to judge these alterations in personality. In many cases we have to rely on the history given by relatives, who are apt to exaggerate any abnormal mental symptom shown by the patient, and above all to exaggerate their family history. In criminal cases one is often surprised at the number of insane and eccentric relatives in the patient's family history, quoted to prove that the patient must have been insane.

Having "summed up" the patient and having taken all precautions to see that the patient was not simulating insanity (as was proved in the case of the famous Moss murder trials in New South Wales in 1939), we face the greatest obstacle of all in trying to prove to a judge and jury that the patient's crime was due to insanity. The attitude of the law is still based on the famous McNaughton rules formulated in 1843. McNaughton, a capable business man showing no obvious signs of insanity, was a paranoic with delusions of persecution against Sir Robert Peel, who, he believed, was continually persecuting him and making his life a misery. After he had been acquitted on a charge of murdering Drummond, whom he had mistaken for Sir Robert Peel, an inquiry was set up to investigate the relationship of crime, insanity and the law. A number of rules were drawn up, which have never been altered, and which still form the basis of all judicial decisions in these matters. Singer and Knohn ("Insanity and Law", page 287) thus sum up these rules:

> To establish a defence on the grounds of insanity it must be clearly proved that at the time of committing the act the accused was laboring under such a defect of reason from disease of the mind as not to know the nature and quality of the act he was doing, or if he did know it, he did not know he was doing what was wrong.

Psychiatrists, whilst being forced to accept these rules, have never agreed with them. They contend that, especially in the case of delusional patients, a patient may know the nature and the quality of the act he has done, that he may even know the wrong nature of the act, yet his judgement and reason are so warped by mental disease that he is really not responsible for his actions, and that he should therefore be treated as a patient and not as a prisoner. The law itself has realized the limitations of the McNaughton rules, and in the course of time they have been modified to this extent that patients certifiably insane are certified and sent to mental hospitals, whilst an increasing number of prisoners with borderline mental diseases are acquitted.

It is obvious, therefore, that no matter what our theories of crime may be, no matter what our opinion of the patient's mental condition may be, under our present system the final decision rests with the judge and jury, and against this obstacle most of our theories fall to the ground. This attitude is best seen in the case of borderline mentally defective criminals. Between obvious mental deficiency and obvious normal intelligence there are many borderline cases. The degree of a person's intelligence is measured by the Binet-Simon tests and their modifications. According to these tests the mental age of a criminal may be only that of a normal child of from ten to twelve years, and therefore it is contended that the criminal is not responsible for his crimes. This defence is very frequently raised nowadays in criminal cases, but more often than not fails. Perhaps the very newness of the defence, together with the enthusiasm of its advocates, has made not only judges but also members of juries too suspicious of it.

In recent years a vast literature, especially in America, has accumulated on theories of crime. Psychiatrists, psychologists, endocrinologists, social workers and others have claimed the field as peculiarly their own. To the endocrinologist crime is due to endocrine disturbances; to the psychoanalyst it is due to incidents, thoughts or desires, mostly sexual in origin, repressed into the subconscious mind; to the followers of Lombroso it is due to cranial configurations; to some psychiatrists it is based on organic bodily and cerebral changes, and so on. To the dispassionate observer it would appear that in much of this literature sentiment and enthusiasm have too often overcome common sense, and that in the present state of our knowledge it is better to stick to known facts and to let theories take care of themselves until they are proved or disproved.

It is an accepted fact that alterations in personality with the development of criminal tendencies may occur as a sequel to *encephalitis lethargica*, a fracture of the skull, certain types of cerebral tumour, and most usually in cases of *dystrophia adiposo-genitalis*. These criminals are usually most plausible and cunning, inveterate liars, and they are frequently remarkably efficient tricksters or confidence men. It is also an accepted fact that some crimes, for example certain cases of kleptomania and acts of wanton destruction, can be traced to some psychological factors, such as repressed sexual impulses and desires. Between these physical and psychological causes exist the vast majority of criminals about whom we know remarkably little. A discussion on these persons would include an analysis of their mental and

physical make-up, the influences of heredity and environment, their training in infancy, childhood and during adolescence, the influence of education, religion, parents, bad companionship, ill health, adversity and countless other factors. Whilst it cannot be doubted that all these factors play their part in the moulding of a criminal, a discussion on them would be infinite in its scope and is beyond the ambit of this paper.

To all intents and purposes medico-legal work in crimes, apart from the actual psychoses, is confined to four headings: alcoholism, irresistible impulses, moral imbecility and the neuroses.

Alcoholism.

It is an accepted axiom in law that a person is responsible for the crimes he commits whilst under the influence of alcohol as the result of his own voluntary act. If this were not so, all a criminal would have to do would be to get drunk, commit a crime and then be sure of acquittal. The fact that the alcoholic was suffering from some form of mental disease, alcoholic in origin or otherwise, would, of course, modify this axiom.

Irresistible Impulses.

A person with irresistible impulses has such an overwhelming desire to do certain actions that he cannot refrain from doing them. Kleptomania, pyromania (the impulse to set fire to things), and certain forms of sexual aberration are the best known of these actions. The defence of irresistible impulse is so difficult to prove that it is seldom raised in the law courts. There has been much controversy over the reality of irresistible impulses. Some contend they are irresistible because they are not resisted. Clinical experience, however, indicates that they do actually occur and have definite clinical characteristics. The act, whatever its nature, is repeated in exactly the same way, with little attempt at concealment, time and time again in spite of punishment, fines and even imprisonment. Indeed, many kleptomaniacs have an irresistible impulse to steal things even when they are in prison. The act is usually preceded by a period of restlessness and of bodily tension, and the doing of the act gives great relief to the patient. The theory that irresistible impulses act as a relief of great sexual tension, especially in women, would seem to be borne out by some cases I have encountered.

Moral Imbecility.

Moral imbeciles comprise a very wide class of individuals, the diagnoses and even the classification of whose condition vary widely from author to author and from country to country. It is sufficient for our purpose to state that they are generally above the average in intelligence, but they have no moral sense whatsoever. They are cunning, plausible, sly, inveterate liars, and devote their whole lives to crooked ends in spite of treatment, punishment, religion and all appeals to their nobler selves. They cause trouble wherever they are, be it in private life or in prisons or mental hospitals. They are doomed to spend much the greater part of their lives in prison, and all attempts to reform them in the present state of our knowledge are doomed to failure.

The Neuroses.

Most neurotics are too self-centred, apprehensive and timid to commit crimes. When they, especially hysterics, do stoop to crime, the crime is usually one of display and is aimed to bring them under the public eye. This is especially seen in the case of those who commit bizarre actions in public, make half-hearted attempts at suicide, and of those who make false accusations, particularly of indecent assault, against others. The responsibility for the crimes they commit is still the subject of much controversy, and nothing definite has ever been settled.

Sexual Misdemeanours.

The sexual urge varies enormously from individual to individual. Some men are sexual athletes; others are inherently impotent. Some women are Messalinas; others have never known the urge of sex. The great majority of men and women are satisfied with normal sexual relationships. A number of persons, probably much greater than is realized, especially women, are homosexual, whilst a minority can obtain sexual satisfaction only by some form of sexual aberration or perversion. These aberrations are countless in number, and are being constantly added to. The chief types of people who have these aberrations are those who resort to indecent exposure, the voyeurs, those with various fetishes about articles of clothing worn by the opposite sex, the transvestites and numerous others.

Legally, but not morally, to all intents and purposes an individual's sexual life is his own, and provided a member of the opposite sex (except in the case of a girl under the age of sixteen years) consents, he can gratify his sexual urges without fear of the law, providing perversion punishable at law is not involved. The law is concerned only when the rights of others are violated, public decency is offended, and when unnatural offences are committed.

The rights of others can be violated in many ways sexually, by rape or by some forms of sexual aberration. Rape may be a form of sadism; it may be the culmination of unbridled, unrestrained sexual impulses; it may occur when judgement and reason are damaged by alcoholism, mental deficiency, organic diseases of the brain or various forms of mental disease. The sexual aberrations include indecent exposure, the sending of indecent literature through the post, spying on other people in their bedrooms, sadism, the throwing of acid on or the cutting of the clothing of members of the opposite sex, and numerous others. Most of these aberrations would seem to be in the nature of irresistible impulses which vary in degree. The best known example is that of Smollett, the famous obstetrician, who collected and preserved a pubic hair from every woman he confined.

Public decency is offended by the gratification of sexual impulses, normal or perverted, in public, by nudism, by a man's wearing female clothing, by indecent theatrical performances, and so on. Curiously, the law in many of these aberrations ignores the women and blames only the men.

Unnatural offences include homosexual practices and bestiality. Homosexuality (whether active or passive), which occurs commonly in both men and women, is of legal significance as a rule only when it occurs in men. Homosexuality undoubtedly does occur, sometimes simply *faute de mieux*; more often it is inherent in the person, probably as the result of glandular abnormalities. To the true homosexual, homosexuality is a perfectly normal function and he cannot understand heterosexuality. To him, therefore, the attitude of the public, his fines and his imprisonment are all incomprehensible. Treatment and punishment are therefore futile, and his only hope of reformation is in sublimation and religion. Bestiality is rare, and occurs probably *faute de mieux*, or as a substitute for masturbation in both men and women. I have seen cases, however, in which the patient preferred it to all other forms of sexual gratification.

Treatment of sexual misdemeanours is difficult and more often than not quite hopeless. It depends on the accurate summing up of the patient, the circumstances surrounding his crime, his home training, marriage difficulties, and so on. No definite rules can be formulated, and in the present state of our knowledge all that can be said is that the field is practically a virgin one, and the labourers are remarkably few.

S. J. MINOGUE, M.B., Ch.M., D.P.M. (Sydney),
Mental Hospital, Kenmore, New South Wales.

British Medical Association News.

ANNUAL MEETING.

THE annual meeting of the Victorian Branch of the British Medical Association and of the Medical Society of Victoria was held at the Medical Society Hall, East Melbourne, on December 4, 1940, DR. H. C. COLVILLE, the President, in the chair.

ELECTION OF OFFICE BEARERS.

The President announced that the Council had elected the following office bearers:

President: Dr. A. E. Coates.
Senior Vice-President: Dr. H. Boyd Graham.
Junior Vice-President: Dr. J. A. Cahill.
Honorary Secretary: Dr. C. Winter Ashton.
Honorary Treasurer: Dr. C. H. Mollison.
Honorary Librarian: Dr. R. H. Fetherston.
Chairman of Council: Dr. H. C. Colville.

ANNUAL REPORT OF THE COUNCIL.

The report of the Council, which had been circulated among members, was taken as read and adopted. The report is as follows.

The Council of the Branch and the Committee of the Society present the sixty-first annual report of the Branch and the eighty-fifth of the Society.

Election.

At the annual meeting held last December the following members of the Council and of the Committee were elected: Professor R. Marshall Allan, Dr. C. Byrne, Dr. H. C. Colville, Dr. John Dale, Dr. D. M. Embelton, Dr. John Gowland, Dr. John S. Green, Dr. M. O. Kent Hughes, Professor P. MacCallum, Dr. L. A. Neal, Dr. F. Kingsley Norris, Dr. D. Roseby, Dr. Kenneth Smith, Dr. Douglas Thomas.

The following were elected to represent the Subdivisions: Dr. G. Winter Ashton, Dr. F. J. Bonnin, Dr. M. H. Box, Dr. J. A. Cahill, Dr. D. A. Carter, Dr. A. E. Coates, Dr. B. D. Fethers, Dr. P. Goodman, Dr. H. Boyd Graham, Dr. F. W. Grutzner, Dr. G. T. James, Dr. J. J. Kelly, Dr. D. C. Lear, Dr. F. E. McAree, Dr. G. Raleigh Weigall, Dr. S. I. Weir, Dr. C. E. Willing, Dr. B. T. Zwar.

Under Rule 8 the Council elected Dr. Eileen FitzGerald, nominated by the Victorian Medical Women's Society.

The following are *ex officio* members: The Trustees of the Medical Society of Victoria, Dr. F. L. Davies, Dr. R. H. Fetherston, Dr. C. H. Mollison, Dr. J. Newman Morris, and the representative of the Australasian Medical Publishing Company, Dr. J. P. Major.

The Council elected the following office bearers:

President: Dr. H. C. Colville.

Vice-Presidents: Dr. A. E. Coates and Dr. H. Boyd Graham.

Chairman of Council: Dr. H. C. Colville.

Honorary Secretary: Dr. Douglas Thomas, Dr. G. Winter Ashton.

Honorary Treasurer: Dr. C. H. Mollison.

Honorary Librarian: Dr. R. H. Fetherston.

The Executive consisted of the President, with other office bearers and the Immediate Past-President, Dr. F. L. Davies.

On the appointment of Dr. Douglas Thomas to the Australian Imperial Force, he was succeeded as Honorary Secretary by Dr. G. Winter Ashton.

At the annual meeting a motion expressing appreciation of the services rendered by the retiring members of Council was passed, those members being Dr. J. Downing, Dr. D. Pigdon, Dr. W. Summons, Dr. B. M. Sutherland, Dr. W. R. Angus and Dr. S. F. Sutherland.

On the retirement of Dr. B. T. Zwar as a representative of the Melbourne Central Subdivision, Council resolved at its meeting on September 25, 1940:

> That the Council of the Victorian Branch of the British Medical Association, in accepting the resignation of Dr. B. T. Zwar as a representative of the Central Subdivision, places on record its deep appreciation of the services rendered by the retiring councillor. Dr. Zwar first joined the Council in 1922 and was President of the Branch in 1929. Throughout the past eighteen years his advice and leadership have been of the utmost value to his professional colleagues, and the Council has been fortunate in having for so long a period the services of one who, as a distinguished surgeon, President of the Royal Melbourne Hospital, member of the Council of the University of Melbourne and of other public bodies, has played a prominent part in the life of the State of Victoria.

On the resignation of Dr. F. K. Norris as Honorary Secretary of the Branch, the Branch Council resolved on December 13, 1939:

> That this Council expresses its sincere thanks to Dr. F. Kingsley Norris for the efficient and untiring manner in which he carried out the duties of Honorary Secretary of the British Medical Association (Victorian Branch) and places on record its keen appreciation of his services. In the meticulous attention to the duties required of the Honorary Secretary, duties which involved not only a heavy sacrifice of time and much travelling, Dr. Norris showed rare executive ability and set a standard which it will be hard for his successors to follow. The Council conveys to Dr. Norris its congratulations on his appointment as Commanding Officer, Casualty Clearing Station of the Second Australian Imperial Force, and wishes him every success in his new appointment. The Council furthermore trusts that the future will be replete with good health, happiness and prosperity for its retiring Honorary Secretary.

Attendances at Council Meetings.

Eleven ordinary meetings and one special meeting of the Council were held. The following shows the attendances:

Dr. J. A. Cahill	12	Dr. G. Raleigh Weigall	8
Dr. F. L. Davies	12	Dr. D. M. Embelton	7
Dr. R. H. Fetherston	12	Dr. Eileen FitzGerald	7
Dr. H. Boyd Graham	12	Dr. P. Goodman	7
Prof. R. Marshall Allan	11	Dr. John Gowland	7
Dr. H. C. Colville	11	Dr. F. Kingsley Norris[3]	7
Dr. B. D. Fethers	11	Dr. D. A. Carter	6
Dr. C. H. Mollison	11	Dr. F. E. McAree	6
Dr. D. Roseby	11	Dr. Douglas Thomas[3]	6
Dr. Kenneth Smith	11	Prof. P. MacCallum	5
Dr. A. E. Coates	10	Dr. J. J. Kelly	4
Dr. M. O. Kent Hughes	10	Dr. J. Newman Morris	4
Dr. L. A. Neal	10	Dr. B. T. Zwar[1]	3
Dr. G. Winter Ashton	9	Dr. S. I. Weir[2]	1
Dr. C. Byrne	9	Dr. C. E. Willing[1]	1
Dr. John S. Green	9	Dr. F. W. Grutzner	1
Dr. D. C. Lear	9	Dr. F. J. Bonnin	0
Dr. M. H. Box	8	Dr. G. T. James	0
Dr. John Dale	8	Dr. C. H. C. Searby[2]	0
Dr. J. P. Major	8		

The highest attendance at any one meeting was 31, and the average attendance was 24.

Appointment of Subcommittees.

The following Subcommittees were appointed by the Council (the first-named acting as convener of that Subcommittee):

Ethics.—Dr. Major, Dr. Cahill, Dr. Fetherston, Dr. Morris, Dr. Norris, Dr. Zwar and the Executive.

Finance, House and Library.—Dr. Mollison, Dr. Fetherston and Dr. Major.

Legislative.—Dr. Green, Dr. Ashton, Dr. Colville, Dr. Dale, Dr. Davies, Dr. Gowland, Dr. Norris, Dr. Roseby, Professor Marshall Allan.

Organization.—Dr. Roseby, Dr. Ashton, Dr. Box, Dr. Byrne, Dr. Cahill, Dr. Dale, Dr. Fethers, Dr. FitzGerald, Dr. Gowland, Dr. Graham, Dr. Green, Dr. Hughes, Dr. Lear, Dr. Major, Dr. McAree, Dr. Neal, Dr. Smith, Dr. Weigall and representatives of country Subdivisions.

Science.—Dr. Coates, Dr. Graham, Dr. Hughes, Dr. Major, Dr. McAree, Dr. Thomas, Professor Marshall Allan and Professor MacCallum.

Hospital.—Dr. Graham, Dr. Byrne, Dr. Coates, Dr. Colville, Dr. Embelton, Dr. Goodman, Dr. Gowland, Dr. Hughes, Dr. Neal, Dr. Smith, Dr. Thomas, Dr. Weigall and Professor MacCallum.

Correspondence.—Dr. Colville and Honorary Secretary.

Social.—Dr. Roseby, Dr. Ashton and Dr. McAree.

Workers' Compensation.—Dr. Coates, Dr. Byrne, Dr. Colville, Dr. Graham, Dr. Hughes, Dr. Neal, Dr. Roseby and Dr. Smith.

War Emergency.—Dr. Colville, Dr. Ashton, Dr. Cahill, Dr. Gowland, Dr. McAree.

Special Standing Committees.

Early Medical History.—Dr. Black, Dr. Fetherston, Dr. Heffernan, Dr. Kenny, Dr. C. Macdonald, Dr. E. A. Mackay, Dr. Norris.

Yallourn.—Dr. Davies, Dr. Major, Dr. Morris, Dr. A. Robertson, Dr. B. M. Sutherland, Dr. Gerald Weigall, Dr. Zwar, and Medical Secretary *ex officio*.

Insurance Adjudication.—Dr. Major, Sir Alan Newton, Dr. Roseby.

Appointments and Nominations.

Trustees of the Medical Society of Victoria.—Dr. Davies, Dr. Fetherston, Dr. Mollison and Dr. Morris.

Central Council, British Medical Association.—Dr. Isaac Jones.

Federal Council.—Dr. Colville and Dr. Davies.

British Medical Agency Company of Victoria Proprietary Limited.—Directors: Dr. Mollison (Chairman) and Dr. Fetherston; Managing Director, Mr. W. Ramsay.

British Medical Insurance Company of Victoria.—Directors: Dr. Mollison (Chairman), Dr. Fetherston, Dr. Hurley, Dr. Morris, Dr. Norris; Secretary, Mr. J. M. Ford.

Victorian Correspondent, "The Medical Journal of Australia".—Dr. Graham.

Victorian Correspondent, "The British Medical Journal".—Dr. Graham.

[1] Resigned during the year.
[2] Appointed during the year.
[3] Appointed to Australian Imperial Force.

Victorian Bush Nursing Association.—Dr. Graham and Dr. B. M. Sutherland.

Hospital Benefits Association.—Dr. Cahill, Dr. Dickson, Dr. Norris, Dr. Roseby.

Medical Eye Service of Victoria.—Dr. Gardner.

Ear, Nose and Throat Service of Victoria.—Dr. G. W. Ashton.

The Advisory Committee to the Charities Board.—Dr. Hurley, Dr. Embelton, Dr. Latham, Dr. Morris, Dr. McPhee, Dr. Zwar.

Electoral Board, Medical Staffing of Base Hospitals.—Dr. Major and Dr. Norris.

Free Kindergarten Union.—Dr. Gerald Weigall.

Victorian Baby Health Centres' Association.—Dr. Graham.

Melbourne University Union—Graduates' Section (formerly Melbourne University Association).—Dr. Stephens.

Victorian Institute of Hospital Almoners.—Dr. Morris.

Lord Mayor's Fund.—Dr. Morris.

Medical Advisory Committee, Education Department.—Dr. Zwar.

Victorian Council for Mental Hygiene.—Dr. Dale and Dr. Derham.

Melbourne Permanent Post-Graduate Committee.—Dr. Coates, Dr. Major and Dr. B. M. Sutherland.

Big Brother Movement.—Dr. Gerald Weigall.

The Society for Health of Women and Children.—Dr. John Gowland.

Medical Officers' Relief Fund, Advisory Committee.—Dr. Mollison, Dr. Davies and Dr. Upjohn.

Australian Aerial Medical Services.—Dr. Morris.

Nurses' Board.—Professor Allan, Dr. C. H. Hembrow.

Dietetic Association of Victoria.—Dr. John Dale.

Society for Crippled Children.—Dr. Norris,[1] Dr. Graham.

Victorian Council for Social Training.—Dr. Maudsley, Executive; Dr. Embelton, Council.

Medical and Scientific Committee, Anti-Cancer Council of Victoria.—Dr. Hurley.

Board of Studies in Physical Education, Melbourne University.—Dr. Norris,[1] Dr. Thomas.[1]

Opticians' Registration Board.—Dr. E. L. Gault, Dr. Z. Schwartz,[1] Dr. A. Joyce.

City Electoral Roll.—Dr. Mollison.

Masseurs' Registration Board.—Dr. D. O. Brown and Dr. C. H. Hembrow.

National Safety Council of Australia.—Professor W. A. Osborne.

State Medical Coordination Committee.—Dr. T. E. V. Hurley and Dr. C. H. Dickson (Medical Secretary).

Contract Practice Subcommittee, Federal.—Dr. C. H. Dickson.

Trustees Income Insurance Fund.—Dr. Mollison, Dr. Davies, Dr. Fetherston, Dr. Major, Dr. B. M. Sutherland.

Branch Convocation.

The following were elected for the year 1940:

Central.—Sir James Barrett, Dr. J. B. Colquhoun, Dr. L. B. Cox, Dr. K. D. Fairley, Dr. M. C. Gardner, Dr. J. G. Hayden, Dr. K. Hiller, Dr. L. S. Latham, Dr. M. D. Silberberg, Dr. H. Douglas Stephens, Dr. H. C. Trumble.

South-Eastern Suburbs.—Dr. E. Field, Dr. J. M. Fone, Dr. W. McLaren, Dr. R. M. Shaw.

Eastern Suburbs.—Dr. R. L. Forsyth, Dr. E. M. H. Inglis, Dr. W. Summons.

Northern Suburbs.—Dr. E. R. Cordner, Dr. S. L. Fredman, Dr. John F. O'Keeffe, Dr. C. E. Watson.

Western Suburbs.—Dr. A. J. M. Sinclair, Dr. W. J. O'Loughlin.

Southern Suburbs: Dr. A. J. Caroll, Dr. S. G. L. Catchlove, Dr. W. H. Fitchett.

North-Eastern Suburbs.—Dr. M. Ashkenasy, Dr. K. Rush.

South Central Suburbs.—Dr. H. Grover, Dr. R. D. Aitchison.

Bendigo.—Dr. E. Sandner, Dr. W. R. Groves, Dr. A. A. Crooks.

Goulburn.—Dr. Annie L. Bennett.

Geelong.—Dr. C. W. Gale, Dr. R. N. Scott Good.

Ballarat.—Dr. G. R. Davidson, Dr. C. E. Richardson.

Gippsland.—Dr. O. B. Goyen, Dr. J. M. Andrew.

North-Eastern Country.—Dr. G. V. Davies.

North-Western Country.—Dr. F. C. De Crespigny, Dr. G. R. Felstead.

South-Western Country.—Dr. W. R. Angus, Dr. J. Morlet.

No meeting of convocation was held.

Membership Roll.

The number of members on the roll at October 31 was 1,467, which is 28 more than that of last year. Ninety names were added (53 by election, 9 who paid arrears, and 28 by transfer into the Branch). Sixty-two names were removed (9 by death, 11 by resignation, 17 by transfer out of the Branch, and 25 who allowed their subscriptions to fall into arrears).

Honorary medical members (formerly known as "associates") now number 37, four having been added.

Honorary student medical members number 23.

Death of the following members and former members is recorded with regret: Dr. Annie L. Bennett, Dr. A. E. Ffrost, Dr. P. J. Flanagan, Dr. C. H. Johnson, Dr. G. W. Latimer, Dr. J. H. McGee, Dr. F. A. Newman, Dr. F. S. Scanlon, Dr. Robert Scott, Dr. G. F. Sleeman, Dr. F. M. Stevenson, Dr. Annie Windmill.

Members Serving in the Forces.

In addition to many members engaged in part-time duty in the services, 160 members of the Branch have joined the Royal Australian Navy, the second Australian Imperial Force or the Royal Australian Air Force for service at home or abroad. Also several members who were abroad at the outbreak of war are serving with British units.

Ethics Subcommittee.

The Subcommittee met on four occasions and the following were the attendances:

Dr. Cahill	4	Dr. Thomas	2
Dr. Colville	4	Dr. Morris	1
Dr. Davies	4	Dr. Mollison	1
Dr. Graham	4	Dr. Ashton	1
Dr. Major	3		

Information that an unregistered refugee doctor had commenced practice in a country town was transmitted to the Medical Board.

A complaint by a member objecting to the procedure adopted by a colleague in the examination of injured "workers" on behalf of an insurance company is under consideration.

Following a complaint by a relative of a deceased patient that a non-member had demanded and received a fee for a medical certificate concerning death, alleging that the charge for the certificate was "a new rule made by the B.M.A. and had to be charged", the matter was referred to the Medical Board.

The Eugenics Society was informed that, in view of the social, religious, moral, ethical and legal implications, the Branch Council was not prepared to express an opinion on the question of voluntary sterilization.

Members were advised by circular that it was contrary to Ethical Principle No. 6 to give testimonials of any medical or surgical appliance or preparation or any trade article.

A member inquiring into the relationship between dentists and anæsthetists was advised that: (*a*) a doctor is entitled to express his opinion on the choice of anæsthetic to be administered to a patient; (*b*) the dentist should, as an act of courtesy and in the patient's interests, communicate with the patient's medical attendant before an anæsthetic is administered; and (*c*) neither the dentist nor the patient's doctor has a right to choose the anæsthetist, the choice ultimately resting with the patient.

Legislative Subcommittee.

The Subcommittee met once and the following were the attendances: Professor Marshall Allan, Dr. Davies, Dr. Dale, Dr. Green and Dr. Roseby.

On the occasion on which the Subcommittee met they considered the question of admission of foreigners to membership of the Association, and Council later adopted for its future guidance the following resolutions of the Federal Council: (1) That in general the principle be adopted that medical practitioners registered in any State should be admitted to membership of the Association irrespective of their nationality; (2) that foreign applicants for membership should, if possible, be nominated by Australian members; (3) that where inquiries are considered necessary concerning the suitability of a foreign applicant for membership the application should be deferred for a sufficient time to allow such inquiries to be made.

Organization Subcommittee.

The Subcommittee met nine times and the following were the attendances:

Dr. Roseby	9	Dr. Dale	4
Dr. Cahill	7	Dr. Box	4
Dr. Smith	7	Dr. Byrne	4
Dr. Fethers	6	Dr. Ashton	3
Dr. Green	6	Dr. Lear	3
Dr. Hughes	6	Dr. Neal	3
Dr. FitzGerald	5	Dr. Gowland	1
Dr. Graham	5	Dr. McAree	1
Dr. Weigall	5	Dr. Major	0

[1] Australian Imperial Force.

As in 1939, the most important matter concerning the Subcommittee during the year has been the proposed new lodge agreement. The Contract Practice Subcommittee of the Federal Council met the Federal Consultative Committee of Friendly Societies in Australia in June, and the terms of a model common form of agreement were determined by the conference. While the conference agred that the capitation rate proposed under the model form of agreement would not be considered until the conclusion of the war, it urged that steps should be taken to immediately raise the Victorian rate to that generally ruling throughout the Commonwealth. In September representatives of the Friendly Societies' Association of Victoria, and, later, Council submitted a memorandum on the claim for an increased capitation fee. Negotiations are still in progress and the friendly societies have been requested to agree to an immediate increase of the Victorian capitation rate to 26s. metropolitan and 32s. country, without prejudice to negotiations for a further increase at the termination of the war.

The request of the friendly societies for a reclassification as "metropolitan" of outer suburban areas at present classed as "country" was refused.

While of the opinion that the making of private contracts for medical service should be encouraged, it is considered that the remuneration under such contracts for service to a single person should be a sum not less than the minimum rate per member acceptable under the new model lodge agreement, and for service to a family not less than twice that amount.

Although the Municipal Association of Victoria has refused to accept the scale of salaries for medical officers of health approved by the Public Health Commission, if members of the Branch refuse to apply for appointments at salaries below that scale, many of the present anomalies will disappear.

The inadequacy of the salaries of many medical officers employed by the State Government has also concerned the Subcommittee, but little hope is entertained of any increase being obtained during the war.

Representations from the Victorian Football League, seeking permission to invite medical officers of football clubs to accept a 50% reduction of their fees for the duration of the war, were accepted.

The question of medical service to dependants of men serving in the forces has been discussed with the Friendly Societies' Association and the Australian Imperial Force Women's Association, and it is hoped that some system of contract service will be established for the benefit of such persons.

Following complaints from members that, having been subpœnaed as witnesses in civil cases, they had failed to collect their fees, a statement setting out the obligations of medical witnesses and their rights in respect of fees and allowances has been prepared with the aid of the Medical Defence Association of Victoria, and will shortly be issued to members.

The proposed conditions of appointment of medical officers to a suburban outpatient dispensary were disapproved and representatives of the Branch Council and the Committee of Management later met in conference. Proposals for the organized treatment of industrial accidents at the dispensary are still under discussion.

Approval has been extended for another year to the scheme of the Melbourne District Nursing Society for the provision of medical service in obstetric emergencies.

The provision of medical service to evacuees from Hong-Kong and elsewhere was referred to the Federal Council.

Following representations from the Victorian Bush Fire Brigades' Association, members were advised to waive the fee for any certificate required by the Association in cases where an injured fireman paid a fee for his treatment, and to charge a fee in cases where a certificate was required in respect of a fireman who had not received treatment.

The Returned Sailors and Soldiers' Imperial League of Australia was informed that, in the opinion of the Council, those volunteering for the Volunteers' Defence Corps should not be accepted without a certificate of fitness from their own medical advisers.

Science Subcommittee.

The Subcommittee met on three occasions. The following were the attendances:

Dr. Coates	3	Dr. McAree	2
Prof. Allan	3	Dr. Thomas	1
Dr. Graham	3	Prof. MacCallum	1
Dr. Hughes	2	Dr. Major	0

The Subcommittee found it impossible to arrive at a satisfactory definition of the term "operation" as used in agreements for medical service and recommended that a specific definition should be included in future agreements.

Specifications for hospital trollies, submitted by the Standards Association of Australia, were approved after alteration.

The Mental Hygiene Medical Officers' Association has been asked to submit a memorandum embodying its views on necessary reforms in the Department of Mental Hygiene.

The syllabus of scientific meetings for the year consisted of ten monthly meetings, one country Branch meeting and four clinical meetings. Owing to war conditions, clinical meetings proposed to be held at the Alfred, Eye and Ear, and Children's Hospitals were abandoned, as were Branch meetings to be held in Ballarat and Hamilton.

The following were the lecturers and the subjects dealt with:

Monthly Meetings.

February.—Dr. Anita Mühl: "Behaviour Problems in Medicine".

March.—Professor R. D. Wright: "Oxygen Therapy".

April.—Dr. H. Boyd Graham: "Rheumatic Heart Disease".

May.—Major-General R. M. Downes: "The Medical Profession and the War".

June.—Dr. Arthur Brown: "A Plea for the Reorganization of the Medical Profession".

July.—Dr. Kenneth McLean: "Syphilis—Method of Diagnosis; the Development of Arsenical Treatment; Treatment with Bismuth Preparations". Dr. Westmore Stephens: "Gonorrhœa in the Male; General Treatment; Prophylaxis; Public Health Aspects".

August.—Professor Sydney Sunderland: "Some Recent Contributions of Anatomy to Medicine".

September.—Colonel Sir Alan Newton: "Medical Equipment in Time of War".

October.—Seventh Sir Richard Stawell Oration, by Dr. A. L. Kenny: "Our Eyes".

November.—Dr. Ivan Maxwell: "Chemical Warfare".

Clinical Meetings.

April.—Women's Hospital.
May.—Royal Melbourne Hospital.
August.—Queen Victoria Hospital.
September.—Saint Vincent's Hospital.

Country Branch Meeting.

June 8, Mooroopna (Goulburn Subdivision).—Clinical meeting at Mooroopna Hospital. Dr. Victor Hurley: "The Treatment of Gunshot Wounds".

The Sir Richard Stawell Oration.

The seventh Sir Richard Stawell Oration was delivered by Dr. A. L. Kenny on October 4, the subject being "Our Eyes".

Hospital Subcommittee.

The Subcommittee met once and the following were the attendances: Dr. Graham, Dr. Coates, Dr. Colville, Dr. Byrne and Dr. Hughes.

The Charities Board has been informed that the establishment of a central admission bureau is considered to be more than ever necessary on account of war conditions.

The honorary staff of a public hospital having suggested that steps should be taken to obtain at least 25% staff representation on committees of management of public hospitals, the opinions of honorary staffs throughout the State were sought, but as there was no unanimity regarding the proposal, no further action was taken.

Committees of management of the major hospitals have been asked to detail the war-time problems of their hospitals and submit suggestions for their solution.

The question of the shortage of obstetric nurses in private hospitals, caused partly by enlistment and partly by the reluctance of doubly certificated nurses to undertake obstetric nursing, was discussed at a conference with the Royal Victorian College of Nursing, but no solution of the problem was found.

War Emergency Subcommittee.

The Subcommittee met on six occasions and the following were the attendances:

Dr. Colville	6	Dr. McAree	5
Dr. Cahill	6	Dr. Gowland	3

This Subcommittee was established following a resolution of Council that, as a safeguard to members absent on service, a new practice should not be established in war-time without permission. To it are referred the applications of those seeking to commence practice. Several such cases have been dealt with and the recommendations of the Subcommittee approved by the Council.

Supplies of an approved letter from the Association for issue to patients of members proceeding on service are available at the Branch office.

Workers' Compensation Subcommittee.

The Subcommittee met six times and the following were the attendances:

Dr. Coates	6	Dr. Smith	4
Dr. Byrne	4	Dr. Roseby	3
Dr. Graham	4	Dr. Colville	2
Dr. Hughes	4	Dr. Neal	0

The matter of a schedule of fees for services rendered to injured "workers" was discussed at a conference with the Accident Underwriters' Association of Victoria in December, 1939, but repeated efforts to obtain a resumption of the discussions have been unavailing and the position regarding fees to be charged in compensation cases remains unsatisfactory.

While the majority of insurance companies promptly pay fair and reasonable fees for medical services—one of the largest expressing itself as satisfied with 95% of the accounts rendered—a few of the companies cause considerable trouble by disputing numbers of accounts or offering in settlement amounts less than those claimed. Several such cases, referred by members, have been supported during the year, and in every instance the full amount claimed has been paid. Members have recently been asked to transmit to the Branch office details of outstanding accounts for treatment of compensation cases, and it is hoped that next year a solution of many of the present difficulties will be found.

Discussions have proceeded with the Committee of Management of the Royal Melbourne Hospital, where it is proposed to establish an industrial accident clinic under conditions which will safeguard the interests of the medical profession and be in accord with the policy of the Branch Council.

Proposals for the treatment of compensation cases at a suburban outpatient dispensary have also been the subject of conferences with the committee of the institution, but for the time being the matter remains in abeyance.

Finance, House and Library Subcommittee.

The Subcommittee met nine times and the following were the attendances:

Dr. Fetherston	9	Dr. Major	7
Dr. Mollison	8		

The Honorary Treasurer's report and statement of receipts and expenditure of the Branch and the Medical Society of Victoria will be presented to the monthly Branch meeting in February.

Reference was made in last year's report to the financial position of the Branch, and, after careful consideration, Council recommended to a general meeting, which resolved accordingly, that the subscription rates be increased, the rates determined being:

Metropolitan members in private practice ..	£6 6s.
Country members in private practice	£5 5s.
Full-time medical officers	£4 4s.
Junior members	£3

The calculations on which these rates were based have to some extent been upset by the enlistment of many members, who, while serving in the forces will pay a reduced subscription of £1 11s. 6d. *per annum*, but it is anticipated that most of the accumulated deficit will be liquidated by the end of the year.

Thanks are again due to the British Medical Insurance Company for the continued grant of moneys to the funds of the Medical Society of Victoria.

The following gifts are acknowledged, for which Council's thanks on behalf of members have already been made to donors: Dr. D. Roseby, original petition to His Excellency Sir George Gipps, Captain General and Governor-in-Chief of New South Wales, for a medical board in Melbourne; Dr. D. Murray Morton, instruments; and Mr. W. Ramsay, instruments.

Insurance Adjudication Committee.

During the year the Committee has dealt with several cases of disputed accounts for services rendered to claimants under the *Workers' Compensation Acts*, but some difficulty has been experienced in reaching decisions in the absence of a set standard of fees, such as would be provided by a schedule of the type submitted to the Accident Underwriters' Association of Victoria. It is hoped that a schedule will ultimately be accepted, and many of the present causes of dispute thereby obviated.

War Emergency Organization: The Income Insurance Fund.

At the request of the Federal Council and with the approval of the Commonwealth authorities a survey of medical manpower is being conducted.

Following representations from members of the active list, Australian Army Medical Corps, all members of the reserve were circularized and asked if they would undertake duty in militia camps. Over seventy were willing to do so and as a result it was possible to arrange, through the D.D.M.S., Southern Command, relief for those men to whom three months' camp duty would have caused hardship.

Members were also invited to volunteer for the duty of recruit examination, and a panel of several hundred names was forwarded to the D.D.M.S., Southern Command.

The income insurance fund, designed to assist financially contributors engaged in full-time service in the forces, has been successfully established. Although the number of contributors is disappointingly low, the amount of money received by the fund has been sufficient to meet all demands so far received, but more contributors are required to ensure that all possible claims will be met and the utmost help provided for those requiring it.

Honorary Librarian's Report.

The absence of many members on service has led to some falling off in attendances during the year, but the library continues to be well patronized.

The supply of journals has been maintained and many new books added, although the cost of all medical publications is steadily increasing.

By the death of Mr. J. A. Shannon on April 17, 1940, the Branch lost a valued officer, who, as library clerk to the Medical Society of Victoria for over forty years, had been largely responsible for the indexing and orderly arrangement of the library.

Thanks are tendered to the members of the Library Advisory Subcommittee for reviewing books and publications, and to the Directors of the British Medical Insurance Company for their continued and generous donations to the library funds.

Presentations of books and journals have been made during the year by the following, to whom our thanks were tendered: Melbourne Permanent Post-Graduate Committee, Dr. G. Kaye; Dr. J. H. Downing; Dr. R. R. Wettenhall; Recorder; Association of American Physicians; Sir James Barrett; Dr. Archie Anderson; United States Public Health Service; THE MEDICAL JOURNAL OF AUSTRALIA; Dr. Z. Schwartz; Henry Phipps Institute; University of Pennsylvania; Dr. M. Crivelli.

R. H. FETHERSTON,
Honorary Librarian.

Congratulations.

During the year under review Council had pleasure in conveying congratulations to Dr. N. M. Harry, for having been awarded distinction by the Jacksonian Prize Examiners; to Brigadier E. F. Lind, for having had bestowed on him the C.B.E.; and to Dr. C. H. Kellaway on his election as a Fellow of the Royal Society.

Social.

Golf.—The seventh annual golf tournament was held on the Royal Melbourne Golf Links on October 9, 1940. Owing to the war the championship event was not held, but the handicap event for the Roseby Cup was played and won by Dr. L. F. Nicholson. The Spoon competition for the best nine holes out and the best nine holes in was won by Dr. Nicholson and Dr. F. L. Trinca.

Farewell to Members of the Sixth Division, Australian Imperial Force.—On April 1 a late afternoon party was held at Menzies Hotel, at which members and their wives entertained the medical members of the services.

Federal Council.

The Federal Council met in Melbourne in February, 1940, and in Sydney in September, 1940. Full reports of the proceedings appeared in THE MEDICAL JOURNAL OF AUSTRALIA of March 23, 1940, page 420, and October 5, 1940, page 321.

The Branch Council entertained members of the Federal Council at dinner during the February meeting.

The E. H. Embley Prize Medal.

The examination for the seventh award was held in December, 1939, and the gold medal was presented at the February Branch meeting to the winner, Dr. L. R. Trudinger.

The Victorian Medical Benevolent Association.

During the year a young medical man stricken with incurable disease died. The Association had given much appreciated relief for some two years to this very necessitous case. An aged couple received regular help until their death during the year. There are still seven very deserving cases of need receiving regular allowances from the Association, which greatly brighten the outlook of the recipients.

The Committee regrets the death during the year of a valued member, Dr. F. Newman.

The balance sheet showed the income and expenditure as follows:

Income.		*Expenditure.*	
From Subscriptions ..	£178	On Relief	£400
Special Donation	50		
From Investments ...	343		

From this it appears that subscriptions fall far short of expenditure. The policy of the Committee is to further augment the permanent fund, which supplies the larger part of available income, and which now stands at £9,107. The Committee commends this object to the attention of all medical men, and especially to those who are making their wills.

EDWARD L. GAULT,
Honorary Secretary.

British Medical Insurance Company of Victoria Limited.

The British Medical Insurance Company of Victoria Limited showed that it had another satisfactory year when it published its accounts at April 30, 1940. A net profit of £1,278 was shown, out of which there were donated to the Medical Society of Victoria:

For the purchase of library books	£161	11	3
Payments for car attendant at meetings	24	7	0
Donations in cash	480	0	0
	£665	18	3

In addition to this benefit to the Medical Society of Victoria of £665 18s. 3d., £5 5s. was given to the Victorian Medical Benevolent Association; and a donation was made of £32 6s. 4d. for the supply of books for the Second Australian General Hospital, Sixth Division, Australian Imperial Force.

The company's holding of debentures in the Medical Society of Victoria is now £2,225, for which it is accepting interest at the rate of only 1% *per annum*. The great help which the company is giving the Medical Society is obvious, and the directors hope that as the company prospers they will be able to increase the assistance rendered.

They hope that members will continue their support of the company and endeavour to influence as much business to it as they are able. Fire and general insurance business will be particularly acceptable, for, although the motor car insurance is a valuable source of revenue to the company, it is written at such attractive rates that the margin of profit is not nearly so great as it is in insurance covering fire, burglary and similar risks.

C. H. MOLLISON,
Chairman of Directors.

British Medical Agency Proprietary Limited.

War conditions have adversely affected the transfer of practices, but the agency has received a fair share of the business offering and looks forward to receiving the continued support of members requiring *locum tenentes* or desirous of disposing of their practices.

C. H. MOLLISON,
Chairman of Directors.

Reports of Subdivisions.

Metropolitan.

Central.—At a meeting of the Subdivision convened to discuss the schemes for protection of the interests of members joining the defence services, the principle of giving financial help through either the British Medical Association scheme or the Colleges' scheme was endorsed and a sub-committee was formed to assist in obtaining members for the schemes. It was also decided that the British Medical Association Council should be asked to make strong representations in the right quarters to have the remuneration of medical officers in the services raised at least to the level of the English rates.

In August, 1940, the Subdivision was unfortunate to lose the services as a representative of Dr. B. T. Zwar. Special reference to Dr. Zwar's resignation is made elsewhere. Dr. C. H. C. Searby has been appointed to fill the vacancy. The other representatives of the Subdivision are Dr. A. E. Coates and Dr. H. Boyd Graham, both of whom have served on the Executive of the Council as Vice-Presidents of the Branch. Dr. J. P. Major has continued to occupy the position of Chairman of the Subdivision.

H. BOYD GRAHAM,
Honorary Secretary.

South Central.—One meeting of the Subdivision was held this year, at which a presentation of a wallet and fountain pen was made to Dr. V. B. Brenton, of Port Melbourne, on the eve of his departure abroad with the Australian Imperial Force. The meeting was held at the South Melbourne Town Hall, and the Mayor of South Melbourne, Dr. H. Chapman, subsequently entertained members at supper.

FRANCIS E. MCAREE,
Honorary Secretary.

Eastern Suburbs.—Scientific and medico-political meetings have been in abeyance this year. A gathering of a social character was held in September at the home of Dr. C. H. Dickson, in honour of Colonel W. H. Summons, O.C. of the Seventh Australian General Hospital. Colonel Summons had been representative of the Subdivision for many years and a Past President of the Victorian Branch of the British Medical Association. Great appreciation of his services to the Subdivision and the Branch was expressed by the President and the Honorary Secretary of the Victorian Branch, Dr. H. C. Colville and Dr. G. Winter Ashton.

KEITH H. HALLAM,
Deputy Honorary Secretary,
vice Major Newport White,
on active service.

South-Eastern Suburbs.—The office bearers of the South-Eastern Subdivision for the year 1940-1941 are: President, Dr. L. F. Nicholson; Vice-Presidents, Dr. R. M. Shaw and Dr. J. Adamson; Honorary Secretary, Dr. B. D. Fethers. There is nothing to report with regard to the activities of the Subdivision.

B. D. FETHERS,
Honorary Secretary.

Country.

Goulburn.—Three meetings were held during the year—on March 13, a subdivisional meeting; on June 8, a Branch meeting, at which Air-Commodore Hurley spoke on "Gunshot Wounds"; and on August 31, a subdivisional meeting, at which Dr. Ivan Maxwell spoke on "Chemical Warfare".

HERBERT SMITH,
Honorary Secretary.

North-Western.—Office bearers: President, Dr. G. R. Felstead; Honorary Secretary, Dr. G. Forsyth; Council representative, Dr. F. J. Bonnin. Two meetings were held during the year, the average attendance being twelve. The obligations of members to those of our number who had undertaken military service was discussed at the first meeting. The second meeting took the form of a demonstration of medical films by courtesy of John Wyeth and Son.

G. FORSYTH,
Honorary Secretary.

Gippsland.—Office bearers for Subdivision: President, Dr. G. A. Hagenauer; Honorary Secretary, Dr. C. E. Willing; Council representative, Dr. J. H. Paterson. At a meeting at Sale the Subdivision discussed schemes for the protection of members called up for military service. In June, through John Wyeth and Son, a series of films of medical interest were shown at the West Gippsland and Sale Hospitals.

C. E. WILLING,
Honorary Secretary.

Ballarat.—Office bearers: President, Dr. G. R. Davidson; Treasurer, Dr. W. A. Spring; Secretary, Dr. C. E. Richardson; Vice-President, Dr. J. C. Douglas; Representative on Branch Council, Dr. G. T. James. The activities of the Ballarat Subdivision for the year 1939-1940 were much restricted by the war, but two quarterly meetings were held.

J. C. DOUGLAS,
Vice-President.

Geelong.—The office bearers for 1940 are as follows: President, Dr. K. Doig; Past President, Dr. W. Long; Vice-President, Dr. C. Gale; Committee, Dr. Carter, Dr. Long, Dr. Hyett, Dr. McPhee and Dr. Good; Council representative, Dr. D. Carter; Honorary Secretary, Dr. C. E. Backwell. At the three quarterly and many special meetings held during the year, the main activity has been that of trying to evolve a practical scheme for protection of practices of those members absent on active service. The outcome of these discussions has been: (1) an agreement with the friendly societies in reference to absentee doctors' practices; (2) an agreement among the members for a working basis pending further developments. The agreement reached with the friendly societies is as follows:

(1) That lodge lists of medical men going away be kept intact and sent to absentee doctors' attorneys; (2) that all lodge payments be sent direct to absentee doctors' attorneys; (3) that each lodge secretary send to each lodge doctor a list of that doctor's own patients and an additional list of transferees; (4) that no new appointments of medical officers

be made without the approval of the subdivision of the British Medical Association; (5) that junior members, if they so desire, may be placed on absentee doctors' lists; (6) that the British Medical Association supply a list to the lodges of medical men who will work under this scheme; (7) that refugee children adopted by members may be placed on the medical benefit list. The agreement among the members for the protection of absentee doctors' practices is as follows: That pending further developments, the members agree to pay one-third of all fees except lodge capitation fees.

C. E. BACKWELL,
Honorary Secretary.

South-Western.—During the year meetings were held at the centres and by the lecturers indicated: Hamilton, Dr. Ian J. Wood, "Intravenous Therapy"; Portland, Dr. John F. Williams, "Psychiatric Problems in General Practice"; Warrnambool, Dr. W. S. Newton, "Intrathoracic Suppuration"; Terang, Dr. C. B. Melville, "Urinary Tract Infections"; all meetings were well attended, the average attendance being sixteen.

A special meeting was held at Terang for the purpose of formulating plans for the protection of incomes and practices of members on active service. The bi-annual meeting was held at Terang, and the following office bearers were elected for the ensuing two years: President, Dr. J. LeM. Kneebone; Vice-Presidents, Dr. J. Morlet and Dr. A. A. Weir; Secretary, Dr. K. F. O'Donnell; Divisional Representative, Dr. J. Morlet; Committee, Dr. S. C. Fitzpatrick, Dr. I. Buzzard, Dr. L. J. Westacott, Dr. H. V. Francis, Dr. I. D. McInnes.

The Subdivision has decided to hold three meetings each year during the war. It was felt that the value of regular meetings in relation to contact of members, clinical talks, council matters, and the great value of the lectures delivered, and the subsequent discussions thereon, all justified the travelling involved.

K. F. O'DONNELL,
Honorary Secretary.

Reports of Sections.

Ear, Nose and Throat.—Office bearers: President, Dr. T. G. Millar; Honorary Treasurer, Dr. Cecil Cantor; Committee, Dr. H. Watson, Dr. Walter Williams, Dr. George Swinburne and Dr. Leonard Johnston. This section has a membership list of 41 members. Two meetings were held during the year.

ERIC GUTTERIDGE,
Honorary Secretary.

Obstetrics and Gynæcology.—At the annual meeting the following office bearers were elected for 1940: President, Dr. P. Brett; Committee, Dr. E. R. White, Dr. R. W. Chambers, Dr. R. O'Sullivan, Dr. R. Fowler, Dr. Roberta Donaldson, Dr. L. S. Kidd, Dr. B. M. Sutherland and Professor R. Marshall Allan; Honorary Secretary and Treasurer, Dr. G. B. Bearham. The Section has a financial membership of 40. Two meetings have been held during the year, when papers were read as follows: (1) "Investigation of Wassermann Reaction in Antenatal Patients"; (2) "Some Bacteriological Findings in Pyelitis of Pregnancy"; (3) "The Case of Princess Charlotte"; (4) "Functional Uterine Hæmorrhage". At one meeting pathological specimens of gynæcological and obstetrical interest were demonstrated. The meetings were well attended and the subsequent discussions very helpful.

G. B. BEARHAM,
Honorary Secretary.

Anæsthesia.—Office bearers for the year 1940: President, Dr. D. G. Renton; Secretary and Treasurer, Dr. I. C. James. During the year the Section held three meetings, one of which was thrown open to all members of the British Medical Association. The Section has 21 members, but many of these are overseas or otherwise engaged in national service.

I. C. JAMES,
Honorary Secretary.

Neurology and Psychiatry.—Owing to the disturbed conditions in the community brought about by the international situation, only one meeting of the Section was held, and that on May 30, 1940, when a paper on war neuroses was presented by Dr. S. O. Cowen. The discussion was opened by Dr. Parkinson, of the Repatriation Department of New South Wales. Major-General Downes was invited to act as chairman for the evening, and, as a number of other speakers contributed to the discussion, this helped to make the meeting one of the most successful and widely attended that the Section has ever held.

Dr. H. F. Maudsley is the President of the Section.

R. S. ELLERY,
Honorary Secretary.

Ophthalmological Society.—The Society has held several meetings during the year. There have been the usual scientific discussions and demonstrations of cases. A notice giving the names of oculists serving overseas has been placed in members' waiting rooms. This plan was adopted in conformity with the practice in New South Wales to safeguard the practices of absentee members. The President for the year is Dr. J. Ringland Anderson.

T. a'B. TRAVERS,
Honorary Secretary.

Radiology.—At the first meeting this year a demonstration of micro-fluoro-radiography was given by members engaged in this work for the Defence Department. At subsequent meetings a series of lectures on "Some Aspects of Radiology of the Skull" was delivered by Professor Schuller.

KEITH H. HALLAM,
Honorary Secretary.

Melbourne Permanent Post-Graduate Committee.

The following report is published on behalf of the Melbourne Permanent Post-Graduate Committee.

During the last twelve months the state of war has altered the policy of the committee. For a variety of reasons it was reluctantly decided to abandon the refresher course. The usual course in obstetrics and gynæcology was arranged, but was abandoned because of the paucity of applicants.

At the request of the Director-General of Medical Services, Major-General R. M. Downes, three courses have been arranged for medical officers of the Navy, Army and Air Force, and for those who intended to offer their services. The first course consisted of a series of anatomical demonstrations by the staff of the anatomy department of the Melbourne University, arranged by Acting Professor Rowlands. The other two courses held in February and July, 1940, comprised a series of anatomical demonstrations—those in the second series being given by Professor Sunderland—and clinical lectures on subjects of military importance. At the conclusion of the second course, Dr. J. Orde Poynton, of the Institute of Medical Research, Federated Malay States, gave an intensive course on tropical diseases.

The Committee desires to thank all those who gave their services during these courses. Especial thanks are due to Dr. Poynton, who gave so much time and energy to the preparation of a large number of lectures.

E. GRAEME ROBERTSON,
Honorary Secretary.

On behalf of the Council,

H. C. COLVILLE, President.
G. WINTER ASHTON, Honorary Secretary.
C. H. DICKSON, Medical Secretary.

GOLF CUP.

The cup, to be held for one year, and the miniature trophy were presented to the winner of the golf handicap, Dr. Nicholson, by the President, who announced that after all the expenses for the tournament were paid the surplus receipts had been handed over to the Lord Mayor's Fund for Relief of Victims of Bombing.

INSTALLATION OF THE PRESIDENT FOR 1941.

Dr. Colville expressed great pleasure in handing over the office of President to Dr. A. E. Coates. He had had intimate association with Dr. Coates on the Council and Executive. Dr. Coates had for several years been Convener and Chairman of the Science Subcommittee, and during the current year had been Chairman of the Workers' Compensation Committee. On both those responsible committees Dr. Coates had shown his ability to deal with all matters that arose. Dr. Colville had appreciated his help very greatly in the past year, as the combined offices of President and Chairman had caused his activities as President to be restricted, for when he occupied the chair certain rules limiting his rights to speak as President had to be followed. Dr. Colville stated that he felt it would be wise to avoid such a union of offices in the future as the outcome was not altogether satisfactory. In calling on Dr. Coates to take the chair, Dr. Colville expressed his personal appreciation of the services he had rendered.

Dr. A. E. Coates said that it gave him much pleasure to occupy the chair. Council had honoured him greatly. Looking round the walls and reading the names of past presidents had given him a feeling of apprehensive wistfulness as to his ability to fill the position. He felt the pride and satisfaction of knowing that Council members were behind him and that older statesmen were available for advice and help. It was his pleasurable duty to call on Dr. Colville to deliver the presidential address. Dr. Colville

had played a conspicuous part in the Branch for many years; that year he had held the offices of President and Chairman of Council. He had borne the two burdens with distinction. Dr. Colville was also a representative on the Federal Council. It was amazing that he had so ably carried out his multifarious duties. He possessed the judicial type of mind rarely found in the medical profession. He had devoted much time, thought and study to Branch and Federal Council business.

PRESIDENT'S ADDRESS.

Dr. Coates then asked Dr. Colville to deliver the address, remarking that, as Dr. Colville was to remain with them as Chairman of Council, he would be a tower of strength and a pillar of wisdom. Dr. Colville then delivered his address (see page 65).

Dr. D. J. Thomas, on rising to thank Dr. Colville, remarked that much could be said, but he would say only one or two things. Dr. Colville had become a leader. His predecessors, some of whom were present, were leaders, and he was one; he combined very human qualities with a judicial mind; it was gratifying to know that he would continue to be Chairman of the Council. It was a great pleasure to move a vote of thanks to him for his services during the year and for the thoughtful and stimulating address.

Dr. Kenneth Smith supported Dr. Thomas's motion. He had always admired Dr. Colville for the cool way in which he faced problems. Just as Mr. Russell had helped Dr. Colville, Dr. Smith had himself been guided by Sir Alexander McCormick, who had also come from England. Dr. Smith said that he had had a wide experience of doctors in all the States of the Commonwealth, that he considered Dr. Colville was unique and Victorians were fortunate to have him among them. He seconded the vote of thanks.

Dr. Coates called upon Dr. Rowden White to speak with special reference to the close ties of friendship which had existed between him and Mr. Hamilton Russell over many years.

Dr. A. E. Rowden White thanked Dr. Coates for the opportunity, which was an unexpected one. Dr. Colville had said that Australians were fortunate in that Mr. Russell had been transferred to Melbourne. It might not be generally known that he came abroad on account of ill health. As a young man he was threatened with serious chest trouble and was attracted to Victoria by the climate. When he arrived he was friendless, but he began in general practice at Hawthorn. He was a gifted musician and was soon sought after in social circles. It became likely that he would be regarded more as a musician than a doctor; the practice suffered, so he decided to give up music in public. Dr. Stawell and Dr. Jeffreys Wood recognized his good qualities and invited him to live with them in Collins Street. Surgical practice was slow in coming to him, but Stawell and Wood were influential in arranging that Russell join them on the staff at the Children's Hospital. In his new position a knowledge of both medicine and surgery was required, and his capacity as a physician was very limited; but his friends guided him considerably. It was not long before Russell became a leading surgeon. Dr. White had been privileged to act as house surgeon to him at both the Children's and the Alfred Hospitals. Russell's reputation became an international one and he was especially well known in the United States of America.

Dr. Coates added his personal appreciation of Dr. Colville's address and thanked Dr. Rowden White for what he had said.

The vote of thanks was carried with acclamation, which was briefly acknowledged by Dr. Colville and the meeting closed.

Naval, Military and Air Force.

APPOINTMENTS.

THE following appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Number 1, of January 2, 1941.

AUSTRALIAN IMPERIAL FORCE.

Australian Army Medical Corps.

To be Lieutenant-Colonels.—Lieutenant-Colonel N. D. Barton and Majors (Temporary Lieutenant-Colonels) T. Hamilton and W. H. Ward and to command units, 1st November, 1940; Howard Bullock, 1st November, 1940.

To be Majors.—Major (Temporary Lieutenant-Colonel) F. G. Scoles, Captains (Temporary Majors) R. H. Stevens, R. G. Williams, H. A. Phillips, L. M. Outridge, Captains H. W. Johnson, H. C. Whittle, J. F. Chambers, Honorary Majors R. G. Quinn, A. W. Farmer, R. Wishaw, and Honorary Captains A. F. Hobbs, A. D. Lamphee and B. H. Swift, M.C., 1st November, 1940.

To be Captains.—Captains R. W. Greville, W. L. Forsyth, C. L. Anderson, G. C. Love, R. P. Melville, T. V. Stubbs-Brown, R. H. L. Dunn, C. E. Thelander, K. C. M. Madden, C. R. Furner, V. Brand, R. H. Hamilton, H. F. Tucker, Honorary Captains C. W. Furner, S. L. Mainland, C. S. Donald, P. M. Davidson, J. R. Stawell, J. A. Gollan and J. M. Pedler, 1st November, 1940; Charles Rowland Bromley Richards and John Lindsay Taylor, 1st November, 1940.

Reinforcements.—To be Captain—Captain (Temporary Major) F. W. Williams, 1st November, 1940.

To be Lieutenant-Colonel.—Major D. J. Thomas, with regimental seniority next after Lieutenant-Colonel F. J. Clark, 1st November, 1940.

To be Majors.—Captains Z. Schwartz with regimental seniority next after Major F. K. Wallace, L. W. Johnston and G. V. Rudd with regimental seniority next after Major D. O. Brown, and H. M. De Burgh, E. B. Jones and G. C. Halliday with regimental seniority next after Major M. L. Powell, 1st November, 1940.

Major C. W. Nye, E.D., is transferred from the Supernumerary List with regimental seniority next after Major R. M. Rome, 1st November, 1940.

Captain Y. E. Pittar is transferred from "Voyage Only" duties with regimental seniority next after Captain K. C. M. Madden, 1st November, 1940.

AUSTRALIAN MILITARY FORCES.

NORTHERN COMMAND.

First Military District.

Australian Army Medical Corps Reserve.

To be Honorary Captains.—William Henry Nette, 8th November, 1940; Henry Dawson Ashton, 14th November, 1940; Alexander McQueen Thomson, 16th November, 1940; George Henry McCafferty, Ernest Joseph Burton and George Adrian Bolton, 20th November, 1940, and Donald Watson, 23rd November, 1940.

EASTERN COMMAND.

Second Military District.

Australian Army Medical Corps.

Captain J. Davis is seconded for Staff duties, 8th July, 1940, and to be Major (temporarily), 1st November, 1940.

Award of the Australian Efficiency Decoration:
Australian Army Medical Corps.
Lieutenant-Colonel H. W. Davies.

SOUTHERN COMMAND.

Third Military District.

Australian Army Medical Corps.

To be Captains (provisionally).—Mostyn Levi Powell, 30th June, 1940 (in lieu of the notification respecting this officer which appeared in Executive Minute No. 198/1940, promulgated in *Commonwealth Gazette* No. 213 of 1940), and Hedley Ray Millikan, 8th November, 1940.

Australian Army Medical Corps Reserve.

To be Honorary Majors.—Captains J. R. Anderson, D. D. Browne, J. F. Chambers, F. J. Colahan, A. E. Coates, G. V. Davies, D.S.O., B. Foster, E. M. Gordon-Glassford, M.C., K. A. McLean, C. F. MacDonald, W. S. Newton, and Honorary Captains H. C. Colville, H. S. Forrest, G. A. D. McArthur, F. J. Niall, F. V. G. Scholes, J. H. Shaw, R. Webster and N. T. Bull, 25th November, 1940.

To be Honorary Captains.—Andrew Medwyn Hutson, 23rd September, 1940; Alfred Edmund Alcock, 14th November, 1940; Harry Vivian Francis, Harold Chisholm Worch and Russell Angus MacDougall, 21st November, 1940, and Robert Wall, 26th November, 1940.

Lieutenant W. Gove is transferred from a Regimental List of the Reserve of Officers (Inf.), and to be Honorary Captain, 26th November, 1940.

Honorary Captain E. T. T. Downie is seconded whilst employed with the Department of Defence Coordination, and to be Captain (temporarily), 18th November, 1940.

Fourth Military District.

Australian Army Medical Corps Reserve.

To be Honorary Captains.—Rupert Leslie Naylor, 15th October, 1940, and Claude Vincent Hallett, 14th November, 1940.

Honorary Captains R. Godson and J. H. Leon are retired.

Sixth Military District.

Australian Army Medical Corps Reserve.

To be Honorary Captains.—James Thomas Brook, 14th November, 1940; Gavin Murray Crabbe, 18th November, 1940; Douglas William Leigh Parker and Herbert Vivian Jackson, 26th November, 1940.

WESTERN COMMAND.

Fifth Military District.

Australian Army Medical Corps.

Honorary Major J. P. Kenny is appointed from the Reserve of Officers (A.A.M.C.), and to be Major (temporarily), 13th November, 1940.

MEDICAL OFFICERS REQUIRED FOR THE AUSTRALIAN ARMY MEDICAL CORPS.

MEDICAL OFFICERS are urgently required for full-time duty (home service) in the Victorian sector of the Southern Command area. Applicants will not be rejected on account of minor physical disabilities. Those willing to offer their services should communicate with Colonel C. G. Shaw, D.D.M.S., Southern Command, Victoria Barracks, Melbourne, S.C.1.

Correspondence.

SO-CALLED REFLEX ANURIA.

SIR: Whilst congratulating Dr. P. L. Hipsley on the case he has put up against the fairly universally accepted theory of secretory suppression, in his recent article in the journal of December 7, 1940, page 602, I must join issue with him over a statement which dismisses all other causes.

He says "the condition is almost certainly due to calculi lodged in both ureters".

Admittedly he has demonstrated that in children (nine out of ten of the cases cited by him being children) it is a frequent cause of "anuria", post-operative or not, and I am open to persuasion that in the young it may be the only cause. Yet I am unwilling to accept his dismissal of the spasm theory in all cases, adult or adolescent, purely on the reasoning that "spasm and achalasia can be ruled out as a cause of obstruction, because such a condition would hardly be likely to commence suddenly, and after lasting a week or more, as suddenly to disappear, never to return again". By "spasm" presumably we both mean an increased tonus that defies normal reflex relaxation, not a condition analogous to trismus or other skeletal muscle spasm, which resists mechanical stretching.

Now achalasia is recognized as a chronic sympathetic-parasympathetic incoordination, in which destruction of nerve cells probably plays a part, so that its possible analogy need not have entered into the discussion of a purely temporary and acute condition. But a temporary spasm cannot be so easily dismissed; if so, one might deny that the common post-operative vesical retention of urine is due to a spasm of the vesical sphincters. This temporary disability is certainly not an achalasia, nor is that other post-operative state, so-called paralytic ileus.

Both post-operative bladder retention and paralytic ileus are regarded as sympathetico-tonic conditions, in which the normal balance between sympathetic and parasympathetic is upset.

Now I am convinced that my adult cases of post-operative "anuria" have been due to this sympathetico-tonus at the pelvi-ureteral junction. As Dr. Hipsley says, at operation one will undoubtedly find distension of the renal pelvis, and I also add that this distension is not necessarily due to calculus obstruction.

Exactly two years ago I operated on a weakly little woman in her sixth decade for an extensive carcinoma of the rectum. The Lockhart-Mummery perineal resection was performed and she immediately ceased to void any urine. The bladder was consistently empty on catheterization. After seven days, during which diathermy and intravenous solutions, including iso-tonic sodium sulphate, were tried, I attempted to catheterize her ureters, unsuccessfully. This I attributed to the fact that, following the radical dissection, the ureters were now comparatively unsupported. At a distance of two or three centimetres from the bladder orifices the catheters both refused to proceed.

The patient had complained of no discomfort referable to the urinary tract, but, thinking of the possibility of calculus obstruction, I questioned her closely. She admitted then to having had a slight ache one day in the right iliac fossa (quite comprehensible, without any ureteral obstruction, considering the nature of her operation). A plain X ray then showed a shadow in the right lumbar region, which, it was thought, might be a calculus in the lumbar ureter, though it appeared too lateral, and was certainly well above the level reached by the catheters. Retrograde pyelography was impossible, since the catheters would not remain in the lower ureters, and an intravenous pyelogram was out of the question, for obvious reasons. Accordingly I cut down on and delivered her right kidney, finding the renal pelvis very distended, the dilatation extending no further than the otherwise normal pelvi-ureteral junction, and the ureter quite free from dilatation. Urine spurted out under pressure when the pelvis was incised, and a catheter was passed easily through the uretero-pelvic junction, and without any hindrance into the bladder. There was in fact no sign of a stone. The kidney was then drained through a pyelostomy tube, and urine continued to pour therefrom for the remaining week or so of her life.

Her condition was too poor to allow of exposure of the left kidney, which refused to recover from its suppression, no urine collecting in the bladder at all.

A week later the patient died of cellulitis in the perineal cavity; unfortunately I had left on holiday, and the house surgeon failed to secure an autopsy.

This case was definitely one of retention of urine in the renal pelves, caused by an obstruction at the pelvi-ureteral junction, which was not a calculus, and could have been due to no other cause than a neuro-muscular incoordination.

I decided that if I ever had a similar case at a later date I should administer (*a*) a parasympathetic stimulant, such as eserine or one of the choline derivatives as "Esmodil" or "Doryl" (which is a common practice in bladder retention), and (*b*) a sympathetic sedative, such as papaverin. One case recently appeared to have been relieved thereby.

A few weeks ago I performed a cholecystectomy on a woman of similar age. It was not a mistaken diagnosis. A few days after the operation the house surgeon reported that she had passed no more than three cubic centimetres of urine in three days and that the bladder was empty. This was in spite of intravenous drip therapy. I ordered eserine, one-fiftieth of a grain, and papaverin, one-half grain, to be repeated six-hourly. One dose was injected, and within twenty hours she had passed over sixty ounces of urine. The house surgeon, I am bound to say, thinks this was due to "Salyrgan" that he administered of his own accord. "Salyrgan" in my hands has previously proved useless for this condition.

I record this case not as a proof, but to show my convictions.

Such a post-operative "anuria" must have been the occasional experience of anybody who has performed much bladder surgery on the aged. I have worked for days on such patients with diathermy and intravenous hydrotherapy, sometimes unsuccessfully, and have usually noted that such cases were accompanied by paralytic ileus, with marked abdominal distension, more evidence, to my mind, of sympathetico-tonicity.

In a case of such a nature, "anuria" following endoscopic coagulation of a papilloma, I wasted little time before catheterizing the ureters, with a resultant rapid evacuation of the retained urine. The ileus responded to the duodenal tube. In future I shall try the above-mentioned drugs first, since ureteral catheterization is decidedly inconvenient after most bladder operations.

Contrary to the statement made by Dr. Hipsley, that "There has been in the great majority of cases severe pain in the loins, generally associated with vomiting. In most cases . . . hæmaturia was present", the cases referred to by me presented no such symptom complex. Vomiting, if present, has usually been an accompaniment of the intestinal sympathetico-tonus.

I would suggest the name "renal retention", considering its analogy to bladder retention, for any form of post-operative suppression of urine. I do not even quarrel with the word "reflex".

Yours, etc.,

175, North Terrace, Adelaide, December 14, 1940. W. JOHN CLOSE.

A CORRECTION.

SIR: In your report of a meeting of the Victorian Branch of the British Medical Association at Saint Vincent's Hospital, published in your journal of January 11, 1941, under the heading "Diversion of the Urinary Stream in Tuberculosis", an error appears. In the fifth line, left ureterostomy should read left ureterectomy.

Would you be so kind as to insert a note of correction.

Yours, etc.,

33, Collins Street, Melbourne, January 11, 1941. HENRY MORTENSEN.

Obituary.

WILLIAM HENRY COUTIE.

WE are indebted to Dr. J. L. Wallace for the following appreciation of the career of the late Dr. William Henry Coutie.

Dr. William Henry Coutie was born at Melbourne, Victoria, on November 4, 1856. He was educated at Carlton College and graduated M.B., B.S., at the University of Melbourne in 1881. He was resident medical officer at Melbourne Hospital and later was stationed at the Quarantine Station at Melbourne. Afterwards he was medical officer at New Norfolk Mental Hospital, Tasmania. From there he went to Sydney and was in general practice at Petersham from 1886 to 1901. He was secretary and afterwards president of the Western Suburbs Medical Association, trustee of the Medical Defence Union and president of the New South Wales Branch of the British Medical Association. He retired from general practice and took up work in the Mental Hospitals Department of New South Wales at rather a later age than usual. He was appointed medical officer in the Mental Hospitals Department in November, 1904, and eventually became medical superintendent at Callan Park in 1911, when the late Dr. Andrew Davidson resigned to take up private practice in Macquarie Street. Dr. Coutie retired from Callan Park in December, 1922, having reached the retiring age.

On the occasion of the death, in 1925, of the Inspector-General of Mental Hospitals (Dr. Eric Sinclair), Dr. Coutie was recalled by the Public Service Board and acted as inspector-general of mental hospitals for twelve months, until Dr. C. A. Hogg's appointment as inspector-general.

During the period of the last war the late Dr. Sinclair and Dr. Coutie, being respectively honorary colonel and honorary major, Australian Army Medical Corps, had charge of the Thirteenth Australian Military Hospital at Broughton Hall, which was the original dwelling house converted into an auxiliary hospital for the reception of patients with nervous and mental conditions caused by the war. This had originally been taken over by the Red Cross Society. It also included a building in the lower section of Broughton Hall formerly known as "Kalouan", and later demolished. When Dr. Sinclair became Principal Military Medical Officer for New South Wales, Major Coutie was "O.C." of Broughton Hall, and this also included a section of Callan Park known as number 28 Australian Auxiliary Hospital. Dr. Coutie showed his ability as an organizer by the competent manner in which he dealt with the many hundreds of returned men—"the boys", as he called them in his genial, kindly manner.

He was appointed as brevet lieutenant-colonel on January 1, 1919, and was retired from military service on June 1, 1920.

Frequently old patients of his former private practice at Petersham, some of whom happened to have relatives at Callan Park, used to express their gratitude for his attention and kindness to their families in their earlier lives.

After his retirement from the mental hospital service, Dr. Coutie was appointed as Supreme Court visitor, which office he held until 1935, when Dr. Hogg retired from the Mental Hospitals Department and succeeded to that position. After residing at Neutral Bay for several years, he took up residence in Melbourne a few years ago and, until a few weeks before his death, evidently took a keen interest in mental hospital affairs and frequently sent to his old department Melbourne newspapers with any items of interest on the subject of mental hygiene.

Dr. Coutie was never married and lived with his sister, Miss Coutie, who predeceased him and was as genial and kindly a soul as he himself.

WILLIAM RYTON KELLY.

WE regret to announce the death of Dr. William Ryton Kelly, which occurred on December 28, 1940, at Brisbane, Queensland.

Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Sands, Clive Chisholm, M.B., B.S., 1940 (Univ. Sydney), Royal North Shore Hospital of Sydney, St. Leonards.

White, Colin, M.B., B.S., 1940 (Univ. Sydney), Sydney Hospital, Sydney.

The undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

Barry, Michael, M.B., B.S., 1939 (Univ. Sydney), Royal North Shore Hospital, St. Leonards.

Byrnes, Francis Charters, M.B., B.S., 1939 (Univ. Sydney), Strafford Street, Manilla.

Colyer, Michael Harvey, M.B., B.S., B.Sc., 1941 (Univ. Sydney), Royal North Shore Hospital, St. Leonards.

Corlis, Geoffrey Charles, M.B., B.S., 1939 (Univ. Sydney), Saint Vincent's Hospital, Darlinghurst.

Sibree, Eric Wilberforce, M.B., B.S., 1936 (Univ. Sydney), c.o. J. G. Sibree, Esq., 141, Young Street, Neutral Bay.

Tooth, Kathleen Helen, M.B., B.S., 1939 (Univ. Sydney), Sydney Hospital, Sydney.

Wiles, Marjorie Booth, M.B., B.S., 1939 (Univ. Sydney), 4, Blaxland Road, Bellevue Hill.

Rychter, Szyja (Oscar), M.D., 1936 (Univ. Paris), 68, Main Street, Lithgow.

Diary for the Month.

JAN. 22.—Victorian Branch, B.M.A.: Council.
JAN. 24.—Queensland Branch, B.M.A.: Council.
JAN. 31.—Tasmanian Branch, B.M.A.: Council.
FEB. 4.—New South Wales Branch, B.M.A.: Organization and Science Committee.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phœnix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Proserpine District Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178, North Terrace, Adelaide). All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia.

Editorial Notices.

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